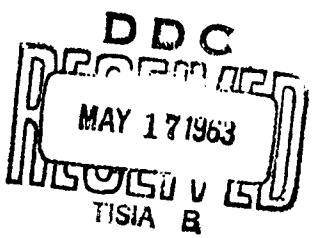


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NUMBER D2-13944-661TITLE FLIGHT ARTICLE MASS PROPERTIES REPORT FOR MINUTEMANWING I COMPONENTS, MISSILES 661-705 (u)MODEL NO. WB-133A CONTRACT NO. AF04(604)-46ISSUE NO. ISSUED TO

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SUMMARY

This report contains mass property summaries of the Boeing components for a series of Operational Wing I Minuteman missiles. The serialized components included in the data for each missile are those committed to that particular missile during the course of production in Seattle and may not be the ones finally installed during missile assembly at Air Force Plant 77.

1.0 INTRODUCTION

1.1 REFERENCES

1.1.1 BSD Exhibit 62-45, "Mass Properties Control Data for WS-133A Dated 3 August 1962.

1.1.2 CCN 258 (BSD-63MSN-2597) to AF04(647)-580 Dated 5 October 1962.

1.1.3 Boeing Document D2-13943, "Flight Article Mass Properties Report for CTLL Installations."

1.1.4 Boeing Document D2-13944-501, "Flight Article Mass Properties Report for Missile 501 Components."

1.1.5 Boeing Document D2-13957-4 "Statistical Means and Dispersions for the Mass Properties of Boeing Components for the Wing I Operational Minuteman Missile - March 1, 1963."

1.1.6 Boeing Document D2-13945-xxx "Air Force Plant 77 Flight Article Mass Properties Report for Missile xxx."

1.2 COMPONENT SERIAL NUMBERS

Component serial numbers appear on the data summary sheet for each missile. See pages 10 through 37.

1.3 DISCUSSION

This weight report for the Boeing components of a series of Operational Wing I Minuteman missiles is presented in accordance with section 3.1.1 of BSD Exhibit 62-45 (reference 1.1.1) as authorized by CCN 258 to AF04(647)-580 (reference 1.1.2). In order to conform more closely to the requirements of the BSD exhibit, some changes have been made to the format used in earlier reports in this series. Since the data is to be reported monthly, this report contains data for a series of missiles instead of a single missile as in the past. The data for each missile reported includes the mass properties of the major components assigned to each missile in the manufacturing records at Seattle. (These may not be the same components finally assembled together at Air Force Plant 77. See Reference 1.1.6 for the final configuration). Mean mass properties are used for components other than the interstages, aft skirt, and base heat deflectors since the weights for these remaining items are small. Mean and dispersion back-up data for these items can be found in the latest quarterly means and dispersions report (reference 1.1.5).

The data presented in this report consist of (1) sectional summaries of the total Boeing weight responsibility for each missile covered by this report, (2) a sectional summary of the components whose mean weights are used in lieu of actual weights, (3) summary check lists by missile section, (4) a list of Engineering Change Proposals incorporated on the hardware included in this report, and (5) actual weighing records for the interstages, the aft skirt, and the base heat deflectors.

The actual weighing records for the major components covered by this report can be found in section 6 (pages 41 through 132). In order to limit the size of this report, weighing diagrams and inventory lists have been omitted for all but the first unit of each interstage and skirt since the components have all been weighed in the "complete" condition. However, these records are on file and can be supplied if necessary. The change records found in section 6 are listed in order by serial number for each major component in order to assist in cross referencing the components in case of substitution at a later date.

Weight and balance data are included for a missile listed as "spare" which incorporates components having serial number 0000169. These components were scheduled for missile 658 when this line position was for a Wing I missile. Since a recent schedule change made the missile a Wing II type, the Wing I components will be reallocated at Air Force Plant 77.

1.4

CTLI PROVISIONS

The only CTLI provisions incorporated into this report are those components which are installed on every operational missile. The mass properties data for CTLI components which will be added at Vandenberg Air Force Base are reported in reference 1.1.3.

1.5

WEIGHING PROCEDURES

A description of the weighing procedures and an accuracy statement will be found in reference 1.1.4.

1.6

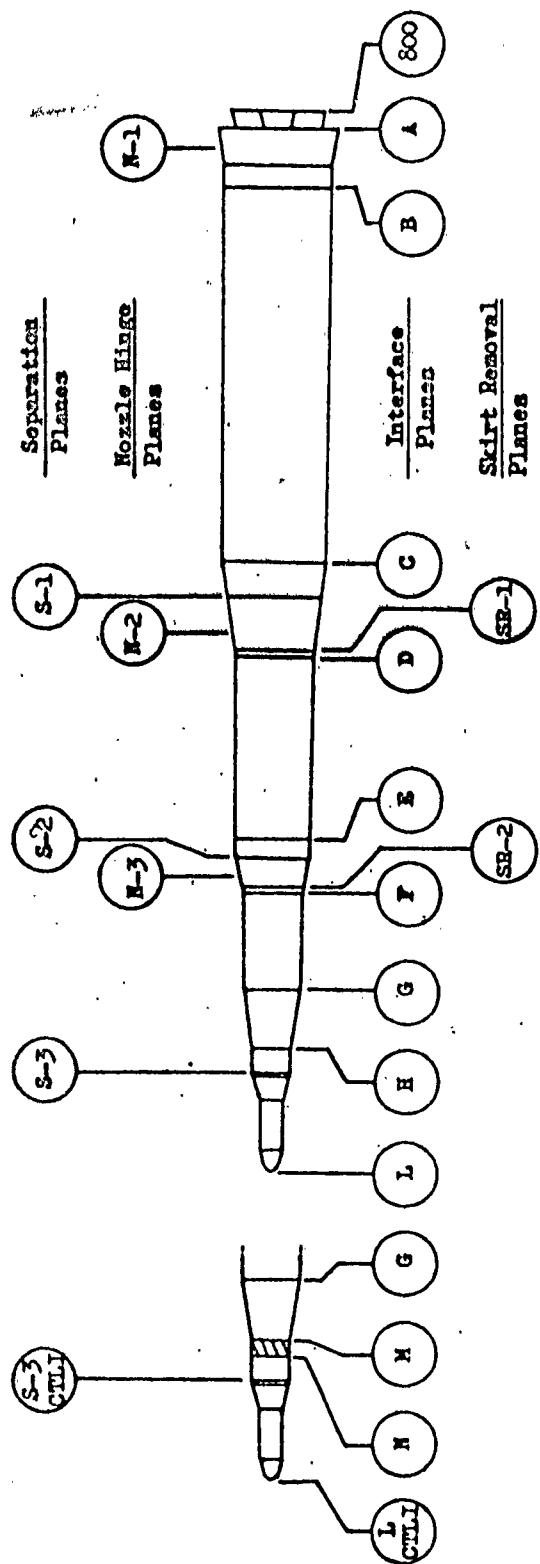
ENGINEERING CHANGE PROPOSAL (ECP) SUMMARY

See page 40 for a list of the ECP's incorporated on the Boeing components covered by this report. The ECP's listed are those not covered by the latest revision to "Model Specification for Guided Missile Main Assemblage, S-133-1000", Dated 12 March 1963 and amended by SCN 1 through SCN 8.

WING I MISSILE STATION DIAGRAM

2.0

OPERATIONAL AND GILL MISSILE STATION DIAGRAM



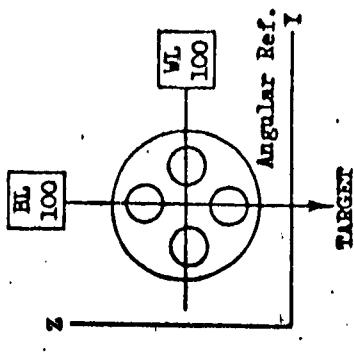
These Missile Stations become 50,000 when converted to Boeing Section Stations.

SEPARATION PLANES	MISSILE STA	INTERFACE PLANES	MISSILE STA
S-1	504.120	A	787.055
S-2	316.030	B	750.995
S-3	219.135	C	528.355
S-3 CTRL	209.135	D	169.273
		E	360.310
		F	321.990
		G	260.215
		H	228.715
		I	155.715
		J	
		K	
		L	
		M	
		N	
		O	
		P	
		Q	
		R	
		S	
		T	
		U	
		V	
		W	
		X	
		Y	
		Z	

SKIRT REMOVAL PLANES	MISSILE STA	NOZZLE HINGE PLANES	MISSILE STA
SR-1	169.70	N-1	778.788
SR-2	322.51	N-2	480.853
		N-3	330.090

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Reference
25-19999
DGN-E

3.1 MISSILE NO. 661
WEIGHT AND BALANCE SUMMARY
MAJOR COMPONENTS S/N 0000130

REPORT NO.

DATE

LINE	SEC	DESCRIPTION	DATA	EXPENDED WEIGHT (LB)	TOTAL WEIGHT (LB)	CENTER OF GRAVITY			INERTIA SLUG FT ² x 10 ⁻³	
						LONG.	LAT.	VERT.	ROLL	PITCH
1	41	RV Spacer								
2		Silo								
3		Aero								
4	39	CWLI Station								
5		Silo								
6		Aero								
7	42	OBC Section		1.02	80.9	100.0	100.0	0	0	
8		Silo								
9		Aero								
10	44	3rd Stage Engine		20.07	94.65	106.92	111.26	0	.004	
11		Silo	0.6		89.2	110.3	117.7	0	0	
12		Aero								
13		Base	0.4		131.8	100.0	100.0	0	0	
14	45	Interstage 2-3			122.48	60.08	100.25	101.14	.012	.007
15		(Fwd)	Silo							
16		Aero								
17		Base	4.6		58.7	108.7	110.0	0	0	
18		Silo	1.7		61.7	100.4	100.6	0	0	
19		Jettisoned	Aero							
20		Portion	Base	101.99		61.08	99.33	100.61		
21			Jett		75.36	79.02	99.39	101.80	.011	.006
22	45	Interstage 2-3							.008	.004
23		(Aft)	Silo	2.6		81.2	100.6	101.0	0	0
24		Aero								
25	46	2nd Stage Engine			38.81	149.35	105.47	109.51	.001	.021
26		Silo	1.0		103.9	112.3	121.2	0	0	
27		Aero								
28		Base	3.3		187.7	100.0	100.0	0	0	
29	47	Interstage 1-2			253.37	67.33	100.06	101.24	.036	.023
30		(Fwd)	Silo							
31		Aero								
32		Base	5.1		61.0	109.3	111.7	0	0	
33		Silo	4.9		67.2	100.0	100.0	.001	0	
34		Jettisoned	Aero							
35		Portion	Base	7.3		67.4	100.3	100.2	.001	.001
36			Jett	215.70		68.69	99.34	100.66	.032	.020
37	47	Interstage 1-2			137.63	96.45	101.25	100.85	.028	.016
38		(Aft)	Silo	5.6		97.6	101.5	102.6	.001	.001
39		Aero								
40	48	1st Stage Engine			57.95	219.32	110.71	118.43	.003	.107
41		Silo	2.4		160.5	117.2	129.7	0	.002	
42		Aero								
43		Base	3.0		314.6	100.0	100.0	0	0	
44	49	Skirt			348.04	68.99	100.55	100.89	.088	.052
45		Silo	32.0		67.9	100.1	100.2	.008	.005	
46		Aero								
47		Base	26.8		68.2	100.8	101.2	.007	.004	
48		MISSILE			1054.73					
49		Silo	50.8							
50		Aero								
51		Base	50.5							
52		Jett	317.69							

*Boeing Section Stations (See Missile Station Diagram)

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3.2 MISSILE NO. 663
WEIGHT AND BALANCE SUMMARY
MAJOR COMPONENTS S/N 0000142

REPORT NO.

DATE

LINE	SEC.	DESCRIPTION	DATA	EXPENDED WEIGHT (LB)	TOTAL WEIGHT (LB)	CENTER OF GRAVITY			INERTIA SLUG FT ² x 10 ⁻³		
						LONG.	LAT.	VERT.	ROLL	PITCH	
1	41	EV Spacer									
2		Silo									
3		Aero									
4	39	GTL Section									
5		Silo									
6		Aero									
7	42	G&C Section		1.02	80.9	100.0	100.0	0	0		
8		Silo									
9		Aero									
10	44	3rd Stage Engine		20.09	94.69	106.91	111.25	0	.004		
11		Silo	0.6		89.2	110.3	117.7	0	0		
12		Aero									
13		Base	0.4		131.8	100.0	100.0	0	0		
14	45	Interstage 2-3			122.45	59.95	100.43	101.19	.012	.007	
15		(Fwd)	Silo								
16		Aero									
17		Base	4.6		58.7	108.7	110.0	0	0		
18		Silo	1.7		61.7	100.4	100.6	0	0		
19		Jettisoned Portion	Aero								
20		Base									
21		Jett	101.96		60.92	99.54	100.31	.011	.006		
22	45	Interstage 2-3			75.34	79.02	99.39	101.80	.008	.004	
23		(Aft)	Silo	2.6		81.2	100.6	101.0	0	0	
24		Aero									
25	46	2nd Stage Engine			38.78	149.32	105.48	109.52	.001	.021	
26		Silo	1.0		103.9	112.3	121.2	0	0		
27		Aero									
28		Base	3.3		187.7	100.0	100.0	0	0		
29	47	Interstage 1-2			252.49	67.33	99.73	101.15	.036	.023	
30		(Fwd)	Silo								
31		Aero									
32		Base	5.1		61.0	109.3	111.7	0	0		
33		Silo	4.9		67.2	100.0	100.0	.001	0		
34		Jettisoned Portion	Aero								
35		Base	7.3		67.4	100.3	100.2	.001	.001		
36		Jett	214.82		68.69	98.95	100.54	.032	.020		
37	47	Interstage 1-2			137.11	96.45	101.25	100.85	.028	.016	
38		(Aft)	Silo	5.6		97.6	101.5	102.6	.001	.001	
39		Aero									
40	48	1st Stage Engine			57.99	219.39	110.70	118.42	.003	.107	
41		Silo	2.4		160.5	117.2	129.7	0	.002		
42		Aero									
43		Base	3.0		314.6	100.0	100.0	0	0		
44	49	Skirt			352.74	68.85	100.62	100.74	.088	.052	
45		Silo	32.0		67.9	100.1	100.2	.008	.005		
46		Aero									
47		Base	26.8		68.2	100.8	101.2	.007	.004		
48		MISSILE			1058.01						
49		Silo	50.8								
50		Aero									
51		Base	50.5								
52		Jett	316.78								

*Boeing Section Stations (See Missile Station Diagram)

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3.3 MISSILE NO. 664
WEIGHT AND BALANCE SUMMARY
MAJOR COMPONENTS S/N 0000131

REPORT NO.

DATE

LINE	SEC.	DESCRIPTION	DATA	EXPENDED WEIGHT (LB)	TOTAL WEIGHT (LB)	CENTER OF GRAVITY			INERTIA SLUG FT ² x 10 ⁻³	
						LONG.*	LAT.	VERT.	ROLL	PITCH
1	41	RV Spacer								
2			Silo							
3			Aero							
4	39	CTL I Section								
5			Silo							
6			Aero							
7	42	G/C Section		1.02	80.9	100.0	100.0	0	0	
8			Silo							
9			Aero							
10	44	3rd Stage Engine		20.24	94.97	106.86	111.17	0	.004	
11			Silo	0.6	89.2	110.3	117.7	0	0	
12			Aero							
13			Base	0.4	131.8	100.0	100.0	0	0	
14	45	Interstage 2-3			122.16	60.37	100.31	101.19	.012	.007
15		(Fwd)	Silo							
16			Aero							
17			Base	4.6		58.7	108.7	110.0	0	0
18			Silo	1.7		61.7	100.4	100.6	0	0
19		Jettisoned	Aero							
20		Portion	Base							
21			Jett	101.67		61.42	99.40	100.31	.011	.006
22	45	Interstage 2-3			75.13	79.02	99.39	101.80	.008	.004
23		(Aft)	Silo	2.6		81.2	100.6	101.0	0	0
24			Aero							
25	46	2nd Stage Engine		38.78	149.32	105.48	109.52	.001	.021	
26			Silo	1.0	103.9	112.3	121.2	0	0	
27			Aero							
28			Base	3.3	187.7	100.0	100.0	0	0	
29	47	Interstage 1-2			252.39	67.29	99.69	101.19	.036	.023
30		(Fwd)	Silo							
31			Aero							
32			Base	5.1		61.0	109.3	111.7	0	0
33			Silo	4.9		67.2	100.0	100.0	.001	0
34		Jettisoned	Aero							
35		Portion	Base	7.3		67.4	100.3	100.2	.001	.001
36			Jett	214.72		68.64	98.90	100.59	.032	.020
37	47	Interstage 1-2			187.06	96.45	101.25	100.85	.028	.016
38		(Aft)	Silo	5.6		97.6	101.5	102.6	.001	.001
39			Aero							
40	48	1st Stage Engine			57.92	219.27	110.71	118.44	.003	.107
41			Silo	2.4		160.5	117.2	129.7	0	.002
42			Aero							
43			Base	3.0		314.6	100.0	100.0	0	0
44	49	Skirt			350.94	68.97	100.72	100.85	.088	.052
45			Silo	32.0		67.9	100.1	100.2	.008	.005
46			Aero							
47			Base	26.8		68.2	100.8	101.2	.007	.004
48		MISSILE			1055.64					
49			Silo	50.8						
50			Aero							
51			Base	50.5						
52			Jett	316.39						

*Boeing Section Stations (See Missile Station Diagram)

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MISSILE NO. 665
WEIGHT AND BALANCE SUMMARY
MAJOR COMPONENTS S/N 0000143

REPORT NO.**DATE**

S/N	SEC	DESCRIPTION	DATA	EXPENDED WEIGHT (LB)	TOTAL WEIGHT (LB)	CENTER OF GRAVITY			INERTIA SLUG FT ² X 10 ⁻⁵	
						LONG.	LAT.	VERT.	ROLL	PITCH
1	41	RV Adapter								
2			Silo							
3			Aero							
4	39	CTLI Section								
5			Silo							
6			Aero							
7	42	G&C Section		1.02	80.9	100.0	100.0	0	0	
8			Silo							
9			Aero							
10	44	3rd Stage Engine		20.29	95.07	106.84	111.14	0	.004	
11			Silo	0.6	89.2	110.3	117.7	0	0	
12			Aero							
13			Base	0.4	131.8	100.0	100.0	0	0	
14	45	Interstage 2-3			122.19	60.23	100.41	101.14	.012	.007
15		(Fwd)	Silo							
16			Aero							
17			Base	4.6	58.7	108.7	110.0	0	0	
18			Silo	1.7	61.7	100.4	100.6	0	0	
19		Jettisoned Portion	Aero							
20			Base							
21			Jett	101.70	61.26	99.52	100.24	.011	.006	
22	45	Interstage 2-3			75.15	79.02	99.39	101.80	.008	.004
23		(Aft)	Silo	2.6	81.2	100.6	101.0	0	0	
24			Aero							
25	46	2nd Stage Engine			38.69	149.22	105.49	109.54	.001	.021
26			Silo	1.0	103.9	112.3	121.2	0	0	
27			Aero							
28			Base	3.3	187.7	100.0	100.0	0	0	
29	47	Interstage 1-2			252.30	67.30	99.54	101.01	.036	.023
30		(Fwd)	Silo							
31			Aero							
32			Base	5.1	61.0	109.3	111.7	0	0	
33			Silo	4.9	67.2	100.0	100.0	.001	0	
34		Jettisoned Portion	Aero							
35			Base	7.3	67.4	100.3	100.2	.001	.001	
36			Jett	214.63	68.65	98.73	100.38	.032	.020	
37	47	Interstage 1-2			137.00	96.45	101.25	100.85	.028	.016
38		(Aft)	Silo	5.6	97.6	101.5	102.6	.001	.001	
39			Aero							
40	48	1st Stage Engine			57.87	219.18	110.72	118.45	.003	.107
41			Silo	2.4	160.5	117.2	129.7	0	.002	
42			Aero							
43			Base	3.0	314.6	100.0	100.0	0	0	
44	49	Skirt			351.09	68.80	100.72	100.78	.088	.052
45			Silo	32.0	67.9	100.1	100.2	.008	.005	
46			Aero							
47			Base	26.8	68.2	100.8	101.2	.007	.004	
48		MISSILE			1055.60					
49			Silo	50.8						
50			Aero							
51			Base	50.5						
52			Jett	316.33						

#Boeing Section Stations (See Missile Station Diagram)

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3.5 MISSILE NO. 666
WEIGHT AND BALANCE SUMMARY
MAJOR COMPONENTS S/N 0000178

REPORT NO.

DATE

LNS	SEC	DESCRIPTION	DATA	EXPENDED WEIGHT (LB)	TOTAL WEIGHT (LB)	CENTER OF GRAVITY			INERTIA SLUG FT ² ×10 ⁻³	
						LONG.	LAT.	VERT.	ROLL	PITCH
1	41	RV Spacer								
2		Silo								
3		Aero								
4	39	GWL Section								
5		Silo								
6		Aero								
7	42	G&C Section		1.02	80.9	100.0	100.0	0	0	
8		Silo								
9		Aero								
10	44	3rd Stage Engine		20.24	94.97	106.86	111.17	0	.004	
11		Silo	0.6		89.2	110.3	117.7	0	0	
12		Aero								
13		Base	0.4		131.8	100.0	100.0	0	0	
14	45	Interstage 2-3		122.66	60.07	100.35	101.11	.012	.007	
15		(Fwd)	Silo							
16		Aero								
17		Base	4.6		58.7	108.7	110.0	0	0	
18		Silo	1.7		61.7	100.4	100.6	0	0	
19		Jettisoned Portion	Aero							
20		Base								
21		Jett	102.17		61.06	99.46	100.21	.011	.006	
22	45	Interstage 2-3		75.48	79.02	99.39	101.80	.008	.004	
23		(Aft)	Silo	2.6	61.2	100.6	101.0	0	0	
24		Aero								
25	46	2nd Stage Engine		38.50	149.45	105.46	109.49	.001	.021	
26		Silo	1.0		103.9	112.3	121.2	0	0	
27		Aero								
28		Base	3.3		187.7	100.0	100.0	0	0	
29	47	Interstage 1-2		252.86	67.44	99.83	101.11	.036	.023	
30		(Fwd)	Silo							
31		Aero								
32		Base	5.1		61.0	109.3	111.7	0	0	
33		Silo	4.9		67.2	100.0	100.0	.001	0	
34		Jettisoned Portion	Aero							
35		Base	7.3		67.4	100.3	100.2	.001	.001	
36		Jett	215.19		68.82	99.06	100.50	.032	.020	
37	47	Interstage 1-2		137.34	96.45	101.25	100.85	.028	.016	
38		(Aft)	Silo	5.6	97.6	101.5	102.6	.001	.001	
39		Aero								
40	48	1st Stage Engine		58.21	219.76	110.66	118.35	.003	.107	
41		Silo	2.4		160.5	117.2	129.7	0	.002	
42		Aero								
43		Base	3.0		314.6	100.0	100.0	0	0	
44	49	Skirt		347.94	68.85	100.78	100.90	.088	.052	
45		Silo	32.0		67.9	100.1	100.2	.008	.005	
46		Aero								
47		Base	26.8		68.2	100.8	101.2	.007	.004	
48		MISSILE			1054.65					
49		Silo	50.8							
50		Aero								
51		Base	50.5							
52		Jett	317.36							

*Boeing Section Stations (See Missile Station Diagram)

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3.6 MISSILE NO. 668
WEIGHT AND BALANCE SUMMARY
MAJOR COMPONENTS S/N 0000132

REPORT NO.

DATE

LINE	SEC.	DESCRIPTION	DATA	EXPENDED WEIGHT (LB)	TOTAL WEIGHT (LB)	CENTER OF GRAVITY			INERTIA SLUG FT ² X10 ⁻³		
						LONG.	LAT.	VERT.	ROLL	PITCH	
1	41	RV Spacer									
2		Silo									
3		Aero									
4	39	GTLY Section									
5		Silo									
6		Aero									
7	42	G&C Section		1.02	80.9	100.0	100.0	0	0		
8		Silo									
9		Aero									
10	44	3rd Stage Engine		20.17	94.84	106.88	111.20	0	.004		
11		Silo	0.6		89.2	110.3	117.7	0	0		
12		Aero									
13		Base	0.4		121.96	59.94	100.32	101.28	.012	.007	
14	45	Interstage 2-3									
15		(Fwd)	Silo								
16		Aero									
17		Base	4.6		48.7	108.7	110.0	0	0		
18		Silo	1.7		61.7	100.4	100.6	0	0		
19		Jettisoned Portion	Aero								
20		Base									
21		Jett	101.47		60.92	99.42	100.42	.011	.006		
22	45	Interstage 2-3			74.98	79.02	69.39	101.80	.008	.004	
23		(Aft)	Silo	2.6		81.2	100.6	101.0	0	0	
24		Aero									
25	46	2nd Stage Engine			38.97	149.52	105.45	109.47	.001	.021	
26		Silo	1.0		103.9	112.3	121.2	0	0		
27		Aero									
28		Base	3.3		187.7	100.0	100.0	0	0		
29	47	Interstage 1-2			253.71	67.59	99.76	101.12	.036	.023	
30		(Fwd)	Silo								
31		Aero									
32		Base	5.1		61.0	109.3	111.7	0	0		
33		Silo	4.9		67.2	100.0	100.0	.001	0		
34		Jettisoned Portion	Aero								
35		Base	7.3		67.4	100.3	100.2	.001	.001		
36		Jett	216.04		68.99	98.98	100.51	.032	.020		
37	47	Interstage 1-2			137.84	96.45	101.25	100.85	.028	.016	
38		(Aft)	Silo	5.6		97.6	101.5	102.6	.001	.001	
39		Aero									
40	48	1st Stage Engine			57.99	219.39	110.70	118.42	.003	.107	
41		Silo	2.4		160.5	117.2	129.7	0	.002		
42		Aero									
43		Base	3.0		314.6	100.0	100.0	0	0		
44	49	Skirt			350.09	68.99	100.65	100.97	.088	.052	
45		Silo	32.0		67.9	100.1	100.2	.008	.005		
46		Aero									
47		Base	26.8		68.2	100.8	101.2	.007	.004		
48		MISSILE			1056.73						
49		Silo	50.8								
50		Aero									
51		Base	50.5								
52		Jett	317.51								

*Boeing Section Stations (See Missile Station Diagram)

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3.7 MISSILE NO. 670

WEIGHT AND BALANCE SUMMARY
MAJOR COMPONENTS S/N 0000144

REPORT NO.

DATE

LINE	SEC.	DESCRIPTION	DATA	EXPENDED WEIGHT (LB)	TOTAL WEIGHT (LB)	CENTER OF GRAVITY			INERTIA SLUG FT ² X10 ⁻³		
						LONG.	LAT.	VERT.	ROLL	PITCH	
1	41	RV Spacer									
2		Silo									
3		Aero									
4	39	CTRL Section									
5		Silo									
6		Aero									
7	42	G&C Section		1.02	80.9	100.0	100.0	0	0		
8		Silo									
9		Aero									
10	44	3rd Stage Engine		20.24	94.97	106.86	111.17	0	.004		
11		Silo	0.6		89.2	110.3	117.7	0	0		
12		Aero									
13		Base	0.4		131.8	100.0	100.0	0	0		
14	45	Interstage 2-3			122.77	60.03	100.43	101.02	.012	.007	
15		(Fwd)	Silo								
16		Aero									
17		Base	4.6		58.7	108.7	110.0	0	0		
18		Silo	1.7		61.7	100.4	100.6	0	0		
19		Jettisoned Portion	Aero								
20		Base									
21		Jett	102.28		61.02	99.55	100.10	.011	.006		
22	45	Interstage 2-3			75.57	79.02	99.39	101.80	.008	.004	
23		(Aft)	Silo	2.6		81.2	100.6	101.0	0	0	
24		Aero									
25	46	2nd Stage Engine			38.42	148.93	105.53	109.61	.001	.021	
26		Silo	1.0		103.9	112.3	121.2	0	0		
27		Aero									
28		Base	3.3		187.7	100.0	100.0	0	0		
29	47	Interstage 1-2			252.11	67.39	99.88	101.01	.036	.023	
30		(Fwd)	Silo								
31		Aero									
32		Base	5.1		61.0	109.3	111.7	0	0		
33		Silo	4.9		67.2	100.0	100.0	.001	0		
34		Jettisoned Portion	Aero								
35		Base	7.3		67.4	100.3	100.2	.001	.001		
36		Jett	214.44		68.76	99.12	100.38	.032	.020		
37	47	Interstage 1-2			136.89	96.45	101.25	100.85	.028	.016	
38		(Aft)	Silo	5.6		97.6	101.5	102.6	.001	.001	
39		Aero									
40	48	1st Stage Engine			58.03	219.46	110.69	118.40	.003	.107	
41		Silo	2.4		160.5	117.2	129.7	0	.002		
42		Aero									
43		Base	3.0		314.6	100.0	100.0	0	0		
44	49	Skirt			353.24	68.76	100.58	100.84	.088	.052	
45		Silo	32.0		67.9	100.1	100.2	.008	.005		
46		Aero									
47		Base	26.8		68.2	100.8	101.2	.007	.004		
48		MISSILE			1058.29						
49		Silo	50.8								
50		Aero									
51		Base	50.5								
52		Jett	316.72								

*Boeing Section Stations (See Missile Station Diagram)

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3.8 MISSILE NO. 671
WEIGHT AND BALANCE SUMMARY
MAJOR COMPONENTS S/N 0000145

REPORT NO.

DATE

LINE NO.	SEC.	DESCRIPTION	DATA	EXPENDED WEIGHT (LB)	TOTAL WEIGHT (LB)	CENTER OF GRAVITY			INERTIA SLUG FT ² x 10 ⁻³	
						LONG.	LAT.	VERT.	ROLL	PITCH
1	41	RV Snader								
2		Silo								
3		Aero								
4	39	CTL Section								
5		Silo								
6		Aero								
7	42	G&C Section			1.02	80.9	100.0	100.0	0	0
8		Silo								
9		Aero								
10	44	3rd Stage Engine			20.22	94.94	106.86	111.18	0	.004
11		Silo	0.6		89.2	110.3	117.7	0	0	
12		Aero								
13		Base	0.4		131.8	100.0	100.0	0	0	
14	45	Interstage 2-3			122.39	60.12	100.26	101.37	.012	.007
15		(Fwd)	Silo							
16		Aero								
17		Base	4.6		58.7	108.7	110.0	0	0	
18		Silo	1.7		61.7	100.4	100.6	0	0	
19		Jettisoned Portion	Aero							
20		Base								
21		Jett	101.90		61.12	99.35	100.52	.011	.006	
22	45	Interstage 2-3			75.30	79.02	99.39	101.80	.008	.004
23		(Aft)	Silo	2.6		81.2	100.6	101.0	0	0
24		Aero								
25	46	2nd Stage Engine			38.95	149.50	105.45	109.48	.001	.021
26		Silo	1.0		103.9	112.3	121.2	0	0	
27		Aero								
28		Base	3.3		167.7	100.0	100.0	0	0	
29	47	Interstage 1-2			252.45	67.47	99.83	100.97	.036	.023
30		(Fwd)	Silo							
31		Aero								
32		Base	5.1		61.0	109.3	111.7	0	0	
33		Silo	4.9		67.2	100.0	100.0	.001	0	
34		Jettisoned Portion	Aero							
35		Base	7.3		67.4	100.3	100.2	.001	.001	
36		Jett	214.78		68.86	99.07	100.35	.032	.020	
37	47	Interstage 1-2			137.10	96.45	101.25	100.85	.028	.016
38		(Aft)	Silo	5.6		97.6	101.5	102.6	.001	.001
39		Aero								
40	48	1st Stage Engine			58.03	219.46	110.69	118.40	.003	.107
41		Silo	2.4		160.5	117.2	129.7	0	.002	
42		Aero								
43		Base	3.0		314.6	100.0	100.0	0	0	
44	49	Skirt			351.54	69.00	100.63	100.71	.088	.052
45		Silo	32.0		67.9	100.1	100.2	.008	.005	
46		Aero								
47		Base	26.8		68.2	100.8	101.2	.007	.004	
48		MISSILE		1057.00						
49		Silo	50.8							
50		Aero								
51		Base	50.5							
52		Jett	316.68							

*Boeing Section Stations (See Missile Station Diagram)

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MISSILE NO. 672
WEIGHT AND BALANCE SUMMARY
MAJOR COMPONENTS S/N 0000133

REPORT NO.

DATE

LINE	SEC.	DESCRIPTION	DATA	EXPENDED WEIGHT (LB)	TOTAL WEIGHT (LB)	CENTER OF GRAVITY			INERTIA SLUG FT ² x 10 ⁻³	
						LONG.	LAT.	VERT.	ROLL	PITCH
1	41	RV Spacer								
2			Silo							
3			Aero							
4	39	CTLI Section								
5			Silo							
6			Aero							
7	42	G&C Section		1.02	80.9	100.0	100.0	0	0	
8			Silo							
9			Aero							
10	44	3rd Stage Engine		20.24	94.97	106.86	111.17	0	.004	
11			Silo	0.6	89.2	110.3	117.7	0	0	
12			Aero							
13			Base	0.4	123.15	60.19	100.28	101.29	.012	.007
14	45	Interstage 2-3								
15		(Fwd)	Silo							
16			Aero							
17			Base	4.6		58.7	108.7	110.0	0	0
18			Silo	1.7		61.7	100.4	100.6	0	0
19		Jettisoned	Aero							
20		Portion	Base							
21			Jett	102.66		61.21	99.38	100.43	.011	.006
22	45	Interstage 2-3		75.84	79.02	99.39	101.80	.008	.004	
23		(Aft)	Silo	2.6	81.2	100.6	101.0	0	0	
24			Aero							
25	46	2nd Stage Engine		39.82	150.40	105.33	109.27	.001	.021	
26			Silo	1.0	103.9	112.3	121.2	0	0	
27			Aero							
28			Base	3.3	187.7	100.0	100.0	0	0	
29	47	Interstage 1-2		255.26	67.34	99.81	101.42	.036	.023	
30		(Fwd)	Silo							
31			Aero							
32			Base	5.1	61.0	109.3	111.7	0	0	
33			Silo	4.9	67.2	100.0	100.0	.001	0	
34		Jettisoned	Aero							
35		Portion	Base	7.3	67.4	100.3	100.2	.001	.001	
36			Jett	217.59	68.69	99.04	100.86	.032	.020	
37	47	Interstage 1-2		138.74	96.45	101.25	100.85	.028	.016	
38		(Aft)	Silo	5.6	97.6	101.5	102.6	.001	.001	
39			Aero							
40	48	1st Stage Engine		58.04	219.47	110.69	118.40	.003	.107	
41			Silo	2.4	160.5	117.2	129.7	0	.002	
42			Aero							
43			Base	3.0	314.6	100.0	100.0	0	0	
44	49	Skirt		349.39	68.86	100.62	101.03	.088	.052	
45			Silo	32.0	67.9	100.1	100.2	.008	.005	
46			Aero							
47			Base	26.8	68.2	100.8	101.2	.007	.004	
48		MISSILE		1061.50						
49			Silo	50.8						
50			Aero							
51			Base	50.5						
52			Jett	320.25						

#Boeing Section Stations (See Missile Station Diagram)

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3.10 MISSILE NO. 673 WEIGHT AND BALANCE SUMMARY MAJOR COMPONENTS S/N 0000146					REPORT NO. _____						
LINE NO.	SEC.	DESCRIPTION	DATA	EXPENDED WEIGHT (LB)	TOTAL WEIGHT (LB)		CENTER OF GRAVITY			INERTIA SLUG FT ² ×10 ⁻³	
					LONG.	LAT.	VERT.	ROLL	PITCH		
1	41	RV Spacer									
2		Silo									
3		Aero									
4	39	CTLI Section									
5		Silo									
6		Aero									
7	42	G&C Section		1.02	80.9	100.0	100.0	0	0		
8		Silo									
9		Aero									
10	44	3rd Stage Engine		20.16	94.82	106.88	111.21	0	.004		
11		Silo	0.6		89.2	110.3	117.7	0	0		
12		Aero									
13		Base	0.4		131.8	100.0	100.0	0	0		
14	45	Interstage 2-3		123.36	60.44	100.04	101.12	.012	.007		
15		(Fwd)	Silo								
16		Aero									
17		Base	4.6		48.7	108.7	110.0	0	0		
18		Silo	1.7		61.7	100.4	100.6	0	0		
19		Jettisoned	Aero								
20		Portion	Base								
21		Jett	102.87		61.51	99.10	100.22	.011	.006		
22	45	Interstage 2-3		75.98	79.02	99.39	101.80	.008	.004		
23		(Aft)	Silo	2.6	81.2	100.6	101.0	0	0		
24		Aero									
25	46	2nd Stage Engine		38.97	149.52	105.45	109.47	.001	.021		
26		Silo	1.0		103.9	112.3	121.2	0	0		
27		Aero									
28		Base	3.3		187.7	100.0	100.0	0	0		
29	47	Interstage 1-2		252.58	67.39	99.73	101.23	.036	.023		
30		(Fwd)	Silo								
31		Aero									
32		Base	5.1		61.0	109.3	111.7	0	0		
33		Silo	4.9		67.2	100.0	100.0	.001	0		
34		Jettisoned	Aero								
35		Portion	Base	7.3	67.4	100.3	100.2	.001	.001		
36		Jett	214.91		68.76	98.94	100.64	.032	.020		
37	42	Interstage 1-2		137.17	96.45	101.25	100.85	.028	.016		
38		(Aft)	Silo	5.6	97.6	101.5	102.6	.001	.001		
39		Aero									
40	48	1st Stage Engine		58.02	219.44	110.70	118.41	.003	.107		
41		Silo	2.4		160.5	117.2	129.7	0	.002		
42		Aero									
43		Base	3.0		314.6	100.0	100.0	0	0		
44	49	Skirt		351.29	68.96	100.47	100.71	.088	.052		
45		Silo	32.0		67.9	100.1	100.2	.008	.005		
46		Aero									
47		Base	26.8		68.2	100.8	101.2	.007	.004		
48		MISSILE		1058.55							
49		Silo	50.8								
50		Aero									
51		Base	50.5								
52		Jett	317.71								

*Boeing Section Stations (See Missile Station Diagram)

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3.11 MISSILE NO. 675
WEIGHT AND BALANCE SUMMARY
MAJOR COMPONENTS S/N 0000170

REPORT NO.

DATE

LINE	S.	DESCRIPTION	DATA	EXPENDED WEIGHT (LB)	TOTAL WEIGHT (LB)	CENTER OF GRAVITY			INERTIA SLUG FT ² ×10 ⁻³	
						LONG.	LAT.	VERT.	ROLL	PITCH
1	41	RV Spacer								
2			Silo							
3			Aero							
4	39	OTLI Section								
5			Silo							
6			Aero							
7	42	G&C Section		1.02	60.9	100.0	100.0	0	0	
8			Silo							
9			Aero							
10	44	3rd Stage Engine		20.30	95.09	106.84	111.13	0	.004	
11			Silo	0.6	89.2	110.3	117.7	0	0	
12			Aero							
13			Base	0.4	131.8	100.0	100.0	0	0	
14	45	Interstage 2-3			122.10	60.01	100.28	101.26	.012	.007
15		(Fwd)	Silo							
16			Aero							
17			Base	4.6	58.7	108.7	110.0	0	0	
18			Silo	1.7	61.7	100.4	100.6	0	0	
19		Jettisoned Portion	Aero							
20			Base							
21			Jett	101.61	61.00	99.39	100.36	.011	.006	
22	45	Interstage 2-3			75.09	79.02	99.39	101.80	.008	.004
23		(Aft)	Silo	2.6	81.2	100.6	101.0	0	0	
24			Aero							
25	46	2nd Stage Engine		38.94	149.50	105.45	109.48	.001	.021	
26			Silo	1.0	103.9	112.3	121.2	0	0	
27			Aero							
28			Base	3.3	187.7	100.0	100.0	0	0	
29	47	Interstage 1-2			250.41	67.40	100.11	101.05	.036	.023
30		(Fwd)	Silo							
31			Aero							
32			Base	5.1	61.0	109.3	111.7	0	0	
33			Silo	4.9	67.2	100.0	100.0	.001	0	
34		Jettisoned Portion	Aero							
35			Base	7.3	67.4	100.3	100.2	.001	.001	
36			Jett	212.74	68.78	99.38	100.42	.032	.020	
37	47	Interstage 1-2			135.89	96.45	101.25	100.85	.028	.016
38		(Aft)	Silo	5.6	97.6	101.5	102.6	.001	.001	
39			Aero							
40	48	1st Stage Engine			58.03	219.46	110.69	118.40	.003	.107
41			Silo	2.4	160.5	117.2	129.7	0	.002	
42			Aero							
43			Base	3.0	314.6	100.0	100.0	0	0	
44	49	Skirt			347.89	68.92	100.76	101.00	.088	.052
45			Silo	32.0	67.9	100.1	100.2	.008	.005	
46			Aero							
47			Base	26.8	68.2	100.8	101.2	.007	.004	
48		MISSILE			1049.67					
49			Silo	50.8						
50			Aero							
51			Base	50.5						
52			Jett	314.35						

*Boeing Section Stations (See Missile Station Diagram)

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3.12 MISSILE NO. 677
WEIGHT AND BALANCE SUMMARY
MAJOR COMPONENTS S/N 0000147

REPORT NO.

DATE

LINE	SPC	DESCRIPTION	DATA	EXPENDED WEIGHT (LB)	TOTAL WEIGHT (LB)	CENTER OF GRAVITY			INERTIA SLUG FT ² ×10 ⁻³	
						LONG.	LAT.	VERT.	ROLL	PITCH
1	41	RV Spacer								
2		Silo								
3		Aero								
4	39	CTLI Section								
5		Silo								
6		Aero								
7	42	Q&Q Section		1.02	89.9	100.0	100.0	0	0	
8		Silo								
9		Aero								
10	44	3rd Stage Engine		20.24	94.97	106.86	111.17	0	.004	
11		Silo	0.6		89.2	110.1	117.7	0	0	
12		Aero								
13		Base	0.4		131.5	100.0	100.0	0	0	
14	45	Interstage 2-3		122.25	60.16	100.13	101.31	.012	.007	
15		(Fwd)	Silo							
16		Aero								
17		Base	4.6		58.7	108.7	110.0	0	0	
18		Silo	1.7		61.7	100.4	100.6	0	0	
19		Jettisoned	Aero							
20		Portion	Base							
21		Jett	101.76		61.17	99.42	100.45	.011	.006	
22	45	Interstage 2-3		75.19	79.02	99.39	101.80	.008	.004	
23		(Aft)	Silo	2.6	81.2	100.6	101.0	0	0	
24		Aero								
25	46	2nd Stage Engine		38.82	149.36	105.47	109.51	.001	.021	
26		Silo	1.0		103.9	112.3	121.2	0	0	
27		Aero								
28		Base	3.3		187.7	100.0	100.0	0	0	
29	47	Interstage 1-2		252.39	67.30	99.75	100.98	.036	.023	
30		(Fwd)	Silo							
31		Aero								
32		Base	5.1		61.0	109.3	111.7	0	0	
33		Silo	4.9		67.2	100.0	100.0	.001	0	
34		Jettisoned	Aero							
35		Portion	Base	7.3		67.4	100.3	100.2	.001	.001
36		Jett	214.72		68.66	98.97	100.35	.032	.020	
37	47	Interstage 1-2		137.06	96.45	101.25	100.85	.028	.016	
38		(Aft)	Silo	5.6	97.6	101.5	102.6	.001	.001	
39		Aero								
40	48	1st Stage Engine		57.90	219.23	110.72	118.45	.003	.107	
41		Silo	2.4		160.5	117.2	129.7	0	.002	
42		Aero								
43		Base	3.0		314.6	100.0	100.0	0	0	
44	49	Skirt		351.34	68.88	100.60	100.89	.088	.052	
45		Silo	32.0		67.9	100.1	100.2	.008	.005	
46		Aero								
47		Base	26.8		68.2	100.8	101.2	.007	.004	
48		MISSILE		1056.21						
49		Silo	50.8							
50		Aero								
51		Base	50.5							
52		Jett	316.48							

*Boeing Section Stations (See Missile Station Diagram)

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3.13 MISSILE NO. 678
WEIGHT AND BALANCE SUMMARY
MAJOR COMPONENTS S/N 0000148

REPORT NO. _____

DATE

LINE	S/N	DESCRIPTION	DATA	EXPENDED WEIGHT (LB)	TOTAL WEIGHT (LB)	CENTER OF GRAVITY			INERTIA SLUG FT ² ×10 ⁻³		
						LONG.	LAT.	VERT.	ROLL	PITCH	
1	41	RV Spacer									
2		Silo									
3		Aero									
4	39	CWT Section									
5		Silo									
6		Aero									
7	42	GEO Section		1.02	80.9	100.0	100.0	0	0		
8		Silo									
9		Aero									
10	44	3rd Stage Engine		20.28	65.05	106.84	111.14	0	.004		
11		Silo	0.6		89.2	110.3	117.7	0	0		
12		Aero									
13		Base	0.4		131.8	100.0	100.0	0	0		
14	45	Interstage 2-3			121.72	60.02	100.19	101.29	.012	.007	
15		(Fwd)	Silo								
16		Aero									
17		Base	4.6		58.7	108.7	110.0	0	0		
18		Silo	1.7		61.7	100.4	100.6	0	0		
19		Jettisoned Portion	Aero								
20		Base									
21		Jett	101.23		61.02	99.26	100.42	.011	.006		
22	45	Interstage 2-3			74.82	79.02	99.39	101.80	.008	.004	
23		(Aft)	Silo	2.6		81.2	100.6	101.0	0	0	
24		Aero									
25	46	2nd Stage Engine		38.86	149.40	105.46	109.50	.001	.021		
26		Silo	1.0		103.9	112.3	121.2	0	0		
27		Aero									
28		Base	3.3		187.7	100.0	100.0	0	0		
29	47	Interstage 1-2			253.02	67.39	99.95	101.15	.036	.023	
30		(Fwd)	Silo								
31		Aero									
32		Base	5.1		61.0	109.3	111.7	0	0		
33		Silo	4.9		67.2	100.0	100.0	.001	0		
34		Jettisoned Portion	Aero								
35		Base	7.3		67.4	100.3	100.2	.001	.001		
36		Jett	215.35		68.76	99.20	100.55	.032	.020		
37	47	Interstage 1-2			137.43	96.45	101.25	100.85	.028	.016	
38		(Aft)	Silo	5.6		97.6	101.5	102.6	.001	.001	
39		Aero									
40	48	1st Stage Engine			57.60	218.72	110.77	118.54	.003	.107	
41		Silo	2.4		160.5	117.2	129.7	0	.002		
42		Aero									
43		Base	3.0		314.6	100.0	100.0	0	0		
44	49	Skirt			346.74	69.01	100.62	100.79	.088	.052	
45		Silo	32.0		67.9	100.1	100.2	.008	.005		
46		Aero									
47		Base	26.8		68.2	100.8	101.2	.007	.004		
48		MISSILE			1051.49						
49		Silo	50.8								
50		Aero									
51		Base	50.5								
52		Jett	316.58								

*Boeing Section Station (See Missile Station Diagram)

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3.14 MISSILE NO. 680
WEIGHT AND BALANCE SUMMARY
MAJOR COMPONENTS S/N 0000179

REPORT NO.

DATE

LINE	S/N	DESCRIPTION	DATA	EXPENDED WEIGHT (LB)	TOTAL WEIGHT (LB)	CENTER OF GRAVITY			INERTIA SLUG JT2x10-3		
						LONG.	LAT.	VERT.	ROLL	PITCH	
1	41	RV Spacer									
2		Silo									
3		Aero									
4	49	CTL Section									
5		Silo									
6		Aero									
7	42	G&Q Section		1.02	80.9	100.0	100.0	0	0		
8		Silo									
9		Aero									
10	44	3rd Stage Engine		20.23	64.95	106.86	111.17	0	.004		
11		Silo	0.6		89.2	110.1	117.7	0	0		
12		Aero									
13		Base	0.4		131.5	100.0	100.0	0	0		
14	45	Interstage 2-3			123.12	60.20	100.06	101.35	.012	.007	
15		(Fwd)	Silo								
16		Aero									
17		Base	4.6		58.7	108.7	110.0	0	0		
18		Silo	1.7		61.7	100.4	100.6	0	0		
19		Jettisoned	Aero								
20		Portion	Base								
21		Jett	102.63		61.21	99.11	100.50	.011	.006		
22	45	Interstage 2-3			75.82	79.02	99.39	101.80	.008	.004	
23		(Aft)	Silo	2.6		81.2	100.6	101.0	0	0	
24		Aero									
25	46	2nd Stage Engine			38.78	149.32	105.48	109.52	.001	.021	
26		Silo	1.0		103.9	112.3	121.2	0	0		
27		Aero									
28		Base	3.3		187.7	100.0	100.0	0	0		
29	47	Interstage 1-2			250.85	67.50	100.11	101.36	.036	.023	
30		(Fwd)	Silo								
31		Aero									
32		Base	5.1		61.0	109.3	111.7	0	0		
33		Silo	4.9		67.2	100.0	100.0	.001	0		
34		Jettisoned	Aero								
35		Portion	Base	7.3		67.4	100.3	100.2	.001	.001	
36		Jett	213.18		68.89	99.38	100.79	.032	.020		
37	47	Interstage 1-2			136.15	219.32	101.25	100.85	.028	.016	
38		(Aft)	Silo	5.6		97.6	101.5	102.6	.001	.001	
39		Aero									
40	48	1st Stage Engine			57.95	219.32	110.71	118.43	.003	.107	
41		Silo	2.4		160.5	117.2	129.7	0	.002		
42		Aero									
43		Base	3.0		314.6	100.0	100.0	0	0		
44	49	Skirt			347.44	68.94	100.51	100.78	.088	.052	
45		Silo	32.0		67.9	100.1	100.2	.008	.005		
46		Aero									
47		Base	26.8		68.2	100.8	101.2	.007	.004		
48		MISSILE			1051.36						
49		Silo	50.8								
50		Aero									
51		Base	50.5								
52		Jett	315.81								

*Boeing Section Stations (See Missile Station Diagram)

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3.15 MISSILE NO. 682
WEIGHT AND BALANCE SUMMARY
MAJOR COMPONENTS S/N 0000149

REPORT NO.

DATE

LINE	SEC.	DESCRIPTION	DATA	EXPENDED WEIGHT (LB)	TOTAL WEIGHT (LB)	CENTER OF GRAVITY			INERTIA SLUG FT ² x 10 ⁻³		
						LONG.	LAT.	VERT.	ROLL	PITCH	
1	41	RV Spacer									
2		Silo									
3		Aero									
4	39	CTLI Section									
5		Silo									
6		Aero									
7	42	G&C Section		1.02	80.9	100.0	100.0	0	0		
8		Silo									
9		Aero									
10	44	3rd Stage Engine		20.21	94.92	106.87	111.18	0	.004		
11		Silo	0.6		89.2	110.3	117.7	0	0		
12		Aero									
13		Base	0.4		131.8	100.0	100.0	0	0		
14	45	Interstage 2-3			123.21	60.08	100.42	101.04	.012	.007	
15		(Fwd)	Silo								
16		Aero									
17		Base	4.6		58.7	108.7	110.0	0	0		
18		Silo	1.7		61.7	100.4	100.6	0	0		
19		Jettisoned	Aero								
20		Portion	Base								
21		Jett	102.72		61.08	99.54	100.14	.011	.006		
22	45	Interstage 2-3			75.88	79.02	99.39	101.80	.008	.004	
23		(Aft)	Silo	2.6		81.2	100.6	101.0	0	0	
24		Aero									
25	46	2nd Stage Engine			38.88	149.42	105.46	109.50	.001	.021	
26		Silo	1.0		103.9	112.3	121.2	0	0		
27		Aero									
28		Base	3.3		187.7	100.0	100.0	0	0		
29	47	Interstage 1-2			251.92	67.46	100.12	100.73	.036	.023	
30		(Fwd)	Silo								
31		Aero									
32		Base	5.1		61.0	109.3	111.7	0	0		
33		Silo	4.9		67.2	100.0	100.0	.001	0		
34		Jettisoned	Aero								
35		Portion	Base	7.3		67.4	100.3	100.2	.001	.001	
36		Jett	214.25		68.85	99.39	100.05	.032	.020		
37	47	Interstage 1-2			136.78	96.45	101.25	100.85	.028	.016	
38		(Aft)	Silo	5.6		97.6	101.5	102.6	.001	.001	
39		Aero									
40	48	1st Stage Engine			57.91	219.25	110.72	118.44	.003	.107	
41		Silo	2.4		160.5	117.2	129.7	0	.002		
42		Aero									
43		Base	3.0		314.6	100.0	100.0	0	0		
44	49	Skirt			352.34	68.96	100.71	100.96	.088	.052	
45		Silo	32.0		67.9	100.1	100.2	.008	.005		
46		Aero									
47		Base	26.8		68.2	100.8	101.2	.007	.004		
48		MISSILE			1058.15						
49		Silo	50.8								
50		Aero									
51		Base	50.5								
52		Jett	316.97								

*Boeing Section Stations (See Missile Station Diagram)

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3.16 MISSILE NO. 684
WEIGHT AND BALANCE SUMMARY
MAJOR COMPONENTS S/N 0000150

REPORT NO. _____

DATE _____

LINE	SEC.	DESCRIPTION	DATA	EXPENDED WEIGHT (LB)	TOTAL WEIGHT (LB)	CENTER OF GRAVITY			INERTIA SLUG FT ² ×10 ⁻³		
						LONG.	LAT.	VERT.	ROLL	PITCH	
1	41	RW Spacer									
2		Silo									
3		Aero									
4	39	CTLI Section									
5		Silo									
6		Aero									
7	42	G&C Section		1.02	80.9	100.0	100.0	0	0		
8		Silo									
9		Aero									
10	44	3rd Stage Engine		20.16	94.82	106.88	111.21	0	.004		
11		Silo	0.6		89.2	110.3	117.7	0	0		
12		Aero									
13		Base	0.4		131.8	100.0	100.0	0	0		
14	45	Interstage 2-3			123.27	60.17	100.40	101.14	.012	.007	
15		(Fwd)	Silo								
16		Aero									
17		Base	4.6		58.7	108.7	110.0	0	0		
18		Silo	1.7		61.7	100.4	100.6	0	0		
19		Jettisoned Portion	Aero								
20		Base									
21		Jett	102.78		61.18	99.52	100.25	.011	.006		
22	45	Interstage 2-3			75.92	79.02	99.39	101.80	.008	.004	
23		(Aft)	Silo	2.6		81.2	100.6	101.0	0	0	
24		Aero									
25	46	2nd Stage Engine			39.40	149.97	105.39	109.37	.001	.021	
26		Silo	1.0		103.9	112.3	121.2	0	0		
27		Aero									
28		Base	3.3		187.7	100.0	100.0	0	0		
29	47	Interstage 1-2			252.45	67.49	100.15	101.38	.036	.023	
30		(Fwd)	Silo								
31		Aero									
32		Base	5.1		61.0	109.3	111.7	0	0		
33		Silo	4.9		67.2	100.0	100.0	.001	0		
34		Jettisoned Portion	Aero								
35		Base	7.3		67.4	100.3	100.2	.001	.001		
36		Jett	214.78		68.88	99.44	100.82	.032	.020		
37	47	Interstage 1-2			137.10	96.45	101.25	100.85	.028	.016	
38		(Aft)	Silo	5.6		97.6	101.5	102.6	.001	.001	
39		Aero									
40	48	1st Stage Engine			57.97	219.35	110.71	118.42	.003	.107	
41		Silo	2.4		160.5	117.2	129.7	0	.002		
42		Aero									
43		Base	3.0		314.6	100.0	100.0	0	0		
44	49	Skirt			351.39	69.08	100.80	100.89	.088	.052	
45		Silo	32.0		67.9	100.1	100.2	.008	.005		
46		Aero									
47		Base	26.8		68.2	100.8	101.2	.007	.004		
48		MISSILE			1058.68						
49		Silo	50.8								
50		Aero									
51		Base	50.5								
52		Jett	317.56								

*Boeing Section Stations (See Missile Station Diagram)

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3.17 MISSILE NO. 685
WEIGHT AND BALANCE SUMMARY
MAJOR COMPONENTS S/N 0000151

REPORT NO.

DATE

LINE	SEC.	DESCRIPTION	DATA	EXPENDED WEIGHT (LB)	TOTAL WEIGHT (LB)	CENTER OF GRAVITY			INERTIA SLUG FT ² x10 ⁻³	
						LONG. *	LAT.	VERT.	ROLL	PITCH
1	41	RV Spacer								
2			Silo							
3			Aero							
4	39	CTLI Section								
5			Silo							
6			Aero							
7	42	G&C Section		1.02	80.9	100.0	100.0	0	0	
8			Silo							
9			Aero							
10	44	3rd Stage Engine		20.24	94.97	106.86	111.17	0	.004	
11			Silo	0.6	89.2	110.3	117.7	0	0	
12			Aero							
13			Base	0.4	131.8	100.0	100.0	0	0	
14	45	Interstage 2-3		122.10	60.02	100.43	101.50	.012	.007	
15		(Fwd)	Silo							
16			Aero							
17			Base	4.6	58.7	108.7	110.0	0	0	
18			Silo	1.7	61.7	100.4	100.6	0	0	
19		Jettisoned	Aero							
20		Portion	Base							
21			Jett	101.61	61.02	99.54	100.67	.011	.006	
22	45	Interstage 2-3		75.09	79.02	99.39	101.80	.008	.004	
23		(Aft)	Silo	2.6	81.2	100.6	101.0	0	0	
24			Aero							
25	46	2nd Stage Engine		38.30	148.80	105.54	109.64	.001	.021	
26			Silo	1.0	103.9	112.3	121.2	0	0	
27			Aero							
28			Base	3.3	187.7	100.0	100.0	0	0	
29	47	Interstage 1-2		253.93	67.35	99.95	101.05	.036	.023	
30		(Fwd)	Silo							
31			Aero							
32			Base	5.1	61.0	109.3	111.7	0	0	
33			Silo	4.9	67.2	100.0	100.0	.001	0	
34		Jettisoned	Aero							
35		Portion	Base	7.3	67.4	100.3	100.2	.001	.001	
36			Jett	216.26	68.70	99.20	100.43	.032	.020	
37	47	Interstage 1-2		137.97	96.45	101.25	100.85	.028	.016	
38		(Aft)	Silo	5.6	97.6	101.5	102.6	.001	.001	
39			Aero							
40	48	1st Stage Engine		57.83	219.11	110.73	118.47	.003	.107	
41			Silo	2.4	160.5	117.2	129.7	0	.002	
42			Aero							
43			Base	3.0	314.6	100.0	100.0	0	0	
44	49	Skirt		349.19	68.93	100.76	100.82	.088	.052	
45			Silo	32.0	67.9	100.1	100.2	.008	.005	
46			Aero							
47			Base	26.8	68.2	100.8	101.2	.007	.004	
48		MISSILE		1055.67						
49			Silo	50.8						
50			Aero							
51			Base	50.5						
52			Jett	317.87						

*Boeing Section Stations (See Missile Station Diagram)

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3.18 MISSILE NO. 689
WEIGHT AND BALANCE SUMMARY
MAJOR COMPONENTS S/N 0000152

REPORT NO.

DATE

LINE	SEC	DESCRIPTION	DATA	EXPENDED WEIGHT (LB)	TOTAL WEIGHT (LB)	CENTER OF GRAVITY			INERTIA SLUG FT ² ×10 ⁻³	
						LONG.	LAT.	VERT.	ROLL	PITCH
1	41	RV Spacer								
2			Silo							
3			Aero							
4	39	CTLI Section								
5			Silo							
6			Aero							
7	42	G&C Section			1.02	80.9	100.0	100.0	0	0
8			Silo							
9			Aero							
10	44	3rd Stage Engine			20.26	95.01	106.85	111.16	0	.004
11			Silo	0.6		89.2	110.3	117.7	0	0
12			Aero							
13			Base	0.4		131.8	100.0	100.0	0	0
14	45	Interstage 2-3			122.42	60.22	100.23	101.10	.012	.007
15		(Fwd)	Silo							
16			Aero							
17			Base	4.6		58.7	108.7	110.0	0	0
18			Silo	1.7		61.7	100.4	100.6	0	0
19		Jettisoned	Aero							
20		Portion	Base							
21			Jett	101.93		61.25	99.31	100.19	.011	.006
22	45	Interstage 2-3			75.32	79.02	99.39	101.80	.008	.004
23		(Aft)	Silo	2.6		81.2	100.6	101.0	0	0
24			Aero							
25	46	2nd Stage Engine			38.95	149.50	105.45	109.48	.001	.021
26			Silo	1.0		103.9	112.3	121.2	0	0
27			Aero							
28			Base	3.3		187.7	100.0	100.0	0	0
29	47	Interstage 1-2			253.24	67.35	100.33	101.33	.036	.023
30		(Fwd)	Silo							
31			Aero							
32			Base	5.1		61.0	109.3	111.7	0	0
33			Silo	4.9		67.2	100.0	100.0	.001	0
34		Jettisoned	Aero							
35		Portion	Base	7.3		67.4	100.3	100.2	.001	.001
36			Jett	215.57		68.71	99.65	100.76	.032	.020
37	47	Interstage 1-2			137.56	95.45	101.25	100.85	.028	.016
38		(Aft)	Silo	5.6		97.6	101.5	102.6	.001	.001
39			Aero							
40	48	1st Stage Engine			57.98	219.37	110.70	118.42	.003	.197
41			Silo	2.4		160.5	117.2	129.7	0	.002
42			Aero							
43			Base	3.0		314.6	100.0	100.0	0	0
44	49	Skirt			352.84	63.98	100.50	100.82	.088	.052
45			Silo	32.0		67.9	100.1	100.2	.008	.005
46			Aero							
47			Base	26.8		68.2	100.8	101.2	.007	.004
48		MISSILE			1059.59					
49			Silo	50.8						
50			Aero							
51			Base	50.5						
52			Jett	317.50						

*Boeing Section Stations (See Missile Station Diagram)

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3.19 MISSILE NO. 691
WEIGHT AND BALANCE SUMMARY
MAJOR COMPONENTS S/N 0000153

REPORT NO.

DATE

LINE	SS	DESCRIPTION	DATA	EXPENDED WEIGHT (LB)	TOTAL WEIGHT (LB)	CENTER OF GRAVITY			INERTIA SLUG FT ² x 10 ⁻³		
						LONG.	LAT.	VERT.	ROLL	PITCH	
1	41	RV Spacer									
2		Silo									
3		Aero									
4	39	QTRL Section									
5		Silo									
6		Aero									
7	42	GAC Section		1.02	80.9	100.0	100.0	0	0		
8		Silo									
9		Aero									
10	44	3rd Stage Engine		20.21	94.92	106.87	111.16	0	.004		
11		Silo	0.6		89.2	110.3	117.7	0	0		
12		Aero									
13		Base	0.4		101.6	100.0	100.0	0	0		
14	45	Interstage 2-3		122.22	60.09	100.11	101.16	.012	.007		
15		(Fwd)	Silo								
16		Aero									
17		Base	4.6		58.7	108.7	110.0	0	0		
18		Silo	1.7		61.7	100.4	100.6	0	0		
19		Jettisoned Portion	Aero								
20			Base								
21			Jett	101.73		61.10	99.16	100.27	.011	.006	
22	45	Interstage 2-3			75.17	79.02	99.39	101.80	.008	.004	
23		(Aft)	Silo	2.6		81.2	100.6	101.0	0	0	
24		Aero									
25	46	2nd Stage Engine			38.83	149.37	105.47	109.51	.001	.021	
26		Silo	1.0		103.9	112.3	121.2	0	0		
27		Aero									
28		Base	3.3		187.7	100.0	100.0	0	0		
29	47	Interstage 1-2			252.67	67.66	99.88	100.95	.036	.023	
30		(Fwd)	Silo								
31		Aero									
32		Base	5.1		61.0	109.3	111.7	0	0		
33		Silo	4.9		67.2	100.0	100.0	.001	0		
34		Jettisoned Portion	Aero								
35			Base	7.3		67.4	100.3	100.2	.001	.001	
36			Jett	215.00		69.08	99.12	100.31	.032	.020	
37	42	Interstage 1-2			137.23	96.45	101.25	100.85	.028	.016	
38		(Aft)	Silo	5.6		97.6	101.5	102.6	.001	.001	
39		Aero									
40	48	1st Stage Engine			57.85	219.15	100.73	118.46	.003	.107	
41		Silo	2.4		160.5	117.2	129.7	0	.002		
42		Aero									
43		Base	3.0		314.6	100.0	100.0	0	0		
44	49	Skirt			348.19	66.94	100.72	101.02	.088	.052	
45		Silo	32.0		67.9	100.1	100.2	.008	.005		
46		Aero									
47		Base	26.8		68.2	100.8	101.2	.007	.004		
48		MISSILE			1053.39						
49		Silo	50.8								
50		Aero									
51		Base	50.5								
52		Jett	316.73								

*Boeing Section Stations (See Missile Station Diagram)

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3.20 MISSILE NO. 692
WEIGHT AND BALANCE SUMMARY
MAJOR COMPONENTS S/N 0000171

REPORT NO.

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LINE	SEC.	DESCRIPTION	DATA	EXPENDED WEIGHT (LB)	TOTAL WEIGHT (LB)	CENTER OF GRAVITY			INERTIA SLUG FT ² x 10 ⁻³		
						LONG.	LAT.	VERT.	ROLL	PITCH	
1	41	RV Spacer									
2		Silo									
3		Aero									
4	39	CTLX Section									
5		Silo									
6		Aero									
7	42	G&G Section		1.02	80.9	100.0	100.0	0	0		
8		Silo									
9		Aero									
10	44	3rd Stage Engine		20.24	91.97	106.86	111.17	0	.004		
11		Silo	0.6		89.2	110.3	117.7	0	0		
12		Aero									
13		Base	0.4		131.8	100.0	100.0	0	0		
14	45	Interstage 2-3			122.95	60.20	100.30	101.26	.012	.007	
15		(Fwd)	Silo								
16		Aero									
17		Base	4.6		58.7	108.7	110.0	0	0		
18		Silo	1.7		61.7	100.4	100.6	0	0		
19		Jettisoned	Aero								
20		Portion	Base								
21		Jett	102.46		61.22	99.40	100.40	.011	.006		
22	45	Interstage 2-3			75.69	79.02	99.39	101.80	.008	.004	
23		(Aft)	Silo	2.6		81.2	100.6	101.0	0	0	
24		Aero									
25	46	2nd Stage Engine			38.92	149.47	105.46	109.54	.001	.021	
26		Silo	1.0		103.9	112.3	121.2	0	0		
27		Aero									
28		Base	3.3		187.7	100.0	100.0	0	0		
29	47	Interstage 1-2			253.08	67.13	100.03	101.38	.036	.023	
30		(Fwd)	Silo								
31		Aero									
32		Base	5.1		61.0	109.3	111.7	0	0		
33		Silo	4.9		67.2	100.0	100.0	.001	0		
34		Jettisoned	Aero								
35		Portion	Base	7.3		67.4	100.3	100.2	.001	.001	
36		Jett	215.41		68.45	99.30	100.82	.032	.020		
37	47	Interstage 1-2			137.47	96.45	101.25	100.85	.028	.016	
38		(Aft)	Silo	5.6		97.6	101.5	102.6	.001	.001	
39		Aero									
40	48	1st Stage Engine			58.02	219.44	110.70	118.41	.003	.107	
41		Silo	2.4		160.5	117.2	129.7	0	.002		
42		Aero									
43		Base	3.0		314.6	100.0	100.0	0	0		
44	49	Skirt			351.59	68.81	100.45	100.68	.088	.052	
45		Silo	32.0		67.9	100.1	100.2	.008	.005		
46		Aero									
47		Base	26.8		68.2	100.8	101.2	.007	.004		
48		MISSILE			1058.98						
49		Silo	50.8								
50		Aero									
51		Base	50.5								
52		Jett	317.87								

*Boeing Section Stations (See Missile Station Diagram)

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3.21 MISSILE NO. 694 WEIGHT AND BALANCE SUMMARY MAJOR COMPONENTS S/N 0000154					REPORT NO.					
LINE NO.	SEC. NO.	DESCRIPTION	DATA	EXPENDED WEIGHT (LB)	TOTAL WEIGHT (LB)	CENTER OF GRAVITY			INERTIA SLUG FT ² ×10 ⁻³	
						LONG.	LAT.	VERT.	ROLL	PITCH
1	41	RV Silencer								
2		Silo								
3		Aero								
4	39	CTLA Section								
5		Silo								
6		Aero								
7	42	GEO Section			1.02	80.9	100.0	100.0	0	0
8		Silo								
9		Aero								
10	44	3rd Stage Engine			20.28	95.05	106.84	111.14	0	.004
11		Silo	0.6			89.2	110.3	117.7	0	0
12		Aero								
13		Base	0.4			131.8	100.0	100.0	0	0
14	45	Interstage 2-3			122.13	60.24	100.22	101.21	.012	.007
15		(Fwd)	Silo							
16		Aero								
17		Base	4.6			58.7	108.7	110.0	0	0
18		Silo	1.7			61.7	100.4	100.6	0	0
19		Jettisoned	Aero							
20		Portion	Base							
21			Jett	101.64		61.27	99.30	100.34	.011	.006
22	45	Interstage 2-3			75.11	79.02	99.39	101.80	.008	.004
23		(Aft)	Silo	2.6		81.2	100.6	101.0	0	0
24		Aero								
25	46	2nd Stage Engine			38.86	149.40	105.46	109.50	.001	.021
26		Silo	1.0			103.9	112.3	121.2	0	0
27		Aero								
28		Base	3.3			187.7	100.0	100.0	0	0
29	47	Interstage 1-2			253.24	67.36	92.77	101.02	.036	.023
30		(Fwd)	Silo							
31		Aero								
32		Base	5.1			61.0	109.3	111.7	0	0
33		Silo	4.9			67.2	100.0	100.0	.001	0
34		Jettisoned	Aero							
35		Portion	Base	7.3		67.4	100.3	100.2	.001	.001
36			Jett	215.57		68.72	98.99	100.40	.032	.020
37	47	Interstage 1-2			137.56	96.45	101.25	100.85	.028	.016
38		(Aft)	Silo	5.6		97.6	101.5	102.6	.001	.001
39		Aero								
40	48	1st Stage Engine			58.06	219.51	110.69	118.39	.003	.107
41		Silo	2.4			160.5	117.2	129.7	0	.002
42		Aero								
43		Base	3.0			314.6	100.0	100.0	0	0
44	49	Skirt			342.54	68.83	100.55	101.00	.088	.052
45		Silo	32.0			67.9	100.1	100.2	.008	.005
46		Aero								
47		Base	26.8			68.2	100.8	101.2	.007	.004
48		MISSILE			1048.80					
49		Silo	50.8							
50		Aero								
51		Base	50.5							
52		Jett	317.21							

*Boeing Section Stations (See Missile Station Diagram)

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3.22 MISSILE NO. 696
WEIGHT AND BALANCE SUMMARY
MAJOR COMPONENTS S/N 0000154

REPORT NO.

DATE

LINE	S/N	DESCRIPTION	DATA	EXPENDED WEIGHT (LB)	TOTAL WEIGHT (LB)	CENTER OF GRAVITY			INERTIA SLUG FT ² x 10 ⁻³	
						LONG.	LAT.	VERT.	ROLL	PITCH
1	41	RV Spacer								
2		Silo								
3		Aero								
4	39	CTLI Section								
5		Silo								
6		Aero								
7	42	G&C Section		1.02	89.9	100.0	100.0	0	0	
8		Silo								
9		Aero								
10	44	3rd Stage Engine		20.32	95.12	106.83	111.12	0	.004	
11		Silo	0.6		89.2	110.3	117.7	0	0	
12		Aero								
13		Base	0.4		131.8	100.0	100.0	0	0	
14	45	Interstage 2-3			121.55	60.07	100.09	101.07	.012	.007
15		(Fwd)	Silo							
16			Aero							
17			Base	4.6		58.7	108.7	110.0	0	0
18			Silo	1.7		61.7	100.4	100.6	0	0
19		Jettisoned	Aero							
20		Portion	Base							
21			Jett	101.06		61.07	99.13	100.16	.011	.006
22	45	Interstage 2-3			74.69	79.02	99.39	101.80	.008	.004
23		(Aft)	Silo	2.6		81.2	100.6	101.0	0	0
24			Aero							
25	46	2nd Stage Engine			38.82	149.36	105.47	109.51	.001	.021
26			Silo	1.0		103.9	112.3	121.2	0	0
27			Aero							
28			Base	3.3		187.7	100.0	100.0	0	0
29	47	Interstage 1-2			254.06	67.42	99.92	100.90	.036	.023
30		(Fwd)	Silo							
31			Aero							
32			Base	5.1		61.0	109.3	111.7	0	0
33			Silo	4.9		67.2	100.0	100.0	.001	0
34		Jettisoned	Aero							
35		Portion	Base	7.3		67.4	100.3	100.2	.001	.001
36			Jett	216.39		68.78	99.17	100.26	.032	.020
37	47	Interstage 1-2			138.04	96.45	101.25	100.85	.028	.016
38		(Aft)	Silo	5.6		97.6	101.5	102.6	.001	.001
39			Aero							
40	48	1st Stage Engine			57.92	219.27	110.71	118.44	.003	.107
41			Silo	2.4		160.5	117.2	129.7	0	.002
42			Aero							
43			Base	3.0		314.6	100.0	100.0	0	0
44	49	Skirt			345.99	68.73	100.57	100.94	.088	.052
45			Silo	32.0		67.9	100.1	100.2	.008	.005
46			Aero							
47			Base	26.8		68.2	100.8	101.2	.007	.004
48		MISSILE			1052.41					
49			Silo	50.8						
50			Aero							
51			Base	50.5						
52			Jett	317.45						

*Boeing Section Stations (See Missile Station Diagram)

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3.23 MISSILE NO. 698
WEIGHT AND BALANCE SUMMARY
MAJOR COMPONENTS S/N 0000180

REPORT NO. _____

DATE _____

LINE	SEC.	DESCRIPTION	DATA	EXPENDED WEIGHT (LB)	TOTAL WEIGHT (LB)	CENTER OF GRAVITY			INERTIA SLUG FT ² ×10 ⁻³	
						LONG. *	LAT.	VERT.	ROLL	PITCH
1	41	RV Snacker								
2		Silo								
3		Aero								
4	19	CTWL Section								
5		Silo								
6		Aero								
7	42	OBC Section		1.02	80.9	100.0	100.0	0	0	
8		Silo								
9		Aero								
10	44	3rd Stage Engine		20.03	94.67	106.91	111.26	0	.004	
11		Silo	0.6		89.2	110.3	117.7	0	0	
12		Aero								
13		Base	0.4		131.8	100.0	100.0	0	0	
14	45	Interstage 2-3		122.07	60.07	100.35	101.36	.012	.007	
15		(Fwd)	Silo							
16		Aero								
17		Base	4.6		58.7	108.7	110.0	0	0	
18		Silo	1.7		61.7	100.4	100.6	0	0	
19		Jettisoned Portion	Aero							
20		Base								
21		Jett	101.58		61.06	99.44	100.51	.011	.006	
22	45	Interstage 2-3		75.07	79.02	99.39	101.50	.008	.004	
23		(Aft)	Silo	2.6	81.2	100.6	101.0	0	0	
24		Aero								
25	46	2nd Stage Engine		38.90	149.45	105.46	109.49	.001	.021	
26		Silo	1.0		103.9	112.3	121.2	0	0	
27		Aero								
28		Base	3.3		187.7	100.0	100.0	0	0	
29	47	Interstage 1-2		253.96	67.39	99.69	101.12	.036	.023	
30		(Fwd)	Silo							
31		Aero								
32		Base	5.1		61.0	109.3	111.7	0	0	
33		Silo	4.9		67.2	100.0	100.0	.001	0	
34		Jettisoned Portion	Aero							
35		Base	7.3		67.4	100.3	100.2	.001	.001	
36		Jett	216.29		68.75	98.91	100.51	.032	.020	
37	47	Interstage 1-2		137.99	63.45	101.25	100.85	.028	.016	
38		(Aft)	Silo	5.6	97.6	101.5	102.6	.001	.001	
39		Aero								
40	48	1st Stage Engine		58.00	219.40	110.70	118.41	.003	.107	
41		Silo	2.4		160.5	117.2	129.7	0	.002	
42		Aero								
43		Base	3.0		314.6	100.0	100.0	0	0	
44	49	Skirt		347.99	69.02	100.63	100.85	.088	.052	
45		Silo	32.0		67.9	100.1	100.2	.008	.005	
46		Aero								
47		Base	26.8		68.2	100.8	101.2	.007	.004	
48		MISSILE		1055.08						
49		Silo	50.8							
50		Aero								
51		Base	50.5							
52		Jett	317.87							

*Boeing Section Stations (See Missile Station Diagram)

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MISSILE NO. 699
WEIGHT AND BALANCE SUMMARY
MAJOR COMPONENTS S/N 0000156**

REPORT NO.

DATE

LINE	SEC.	DESCRIPTION	DATA	EXPENDED WEIGHT (LB)	TOTAL WEIGHT (LB)	CENTER OF GRAVITY			INERTIA SLUG FT ² ×10 ⁻³	
						LONG.	LAT.	VERT.	ROLL	PITCH
1	41	RV Spacer								
2		Silo								
3		Aero								
4	39	CTLI Section								
5		Silo								
6		Aero								
7	42	G&C Section		1.02	80.9	100.0	100.0	0	0	
8		Silo								
9		Aero								
10	44	3rd Stage Engine		20.30	95.09	106.84	111.13	0	.004	
11		Silo	0.6		89.2	110.3	117.7	0	0	
12		Aero								
13		Base	0.4		131.8	100.0	100.0	0	0	
14	45	Interstage 2-3		123.15	60.12	100.36	101.26	.012	.007	
15		(Fwd)	Silo							
16		Aero								
17		Base	4.6		58.7	108.7	110.0	0	0	
18		Silo	1.7		61.7	100.4	100.6	0	0	
19		Jettisoned Portion	Aero							
20		Base								
21		Jett	102.66		61.12	99.48	100.39	.011	.006	
22	45	Interstage 2-3		75.84	79.02	99.39	101.80	.008	.004	
23		(Aft)	Silo	2.6	81.2	100.6	101.0	0	0	
24		Aero								
25	46	2nd Stage Engine		38.78	149.32	105.48	109.52	.001	.021	
26		Silo	1.0		103.9	112.3	121.2	0	0	
27		Aero								
28		Base	3.3		187.7	100.0	100.0	0	0	
29	47	Interstage 1-2		253.62	67.51	99.90	101.18	.036	.023	
30		(Fwd)	Silo							
31		Aero								
32		Base	5.1		61.0	109.3	111.7	0	0	
33		Silo	4.9		67.2	100.0	100.0	.001	0	
34		Jettisoned Portion	Aero							
35		Base	7.3		67.4	100.3	100.2	.001	.001	
36		Jett	215.95		68.89	99.16	100.58	.032	.020	
37	47	Interstage 1-2		137.78	96.45	101.25	100.85	.028	.016	
38		(Aft)	Silo	5.6	97.6	101.5	102.6	.001	.001	
39		Aero								
40	48	1st Stage Engine		57.92	219.27	110.71	118.44	.003	.107	
41		Silo	2.4		160.5	117.2	129.7	0	.002	
42		Aero								
43		Base	3.0		314.6	100.0	100.0	0	0	
44	49	Skirt		348.29	68.82	100.62	100.90	.088	.052	
45		Silo	32.0		67.9	100.1	100.2	.008	.005	
46		Aero								
47		Base	26.8		68.2	100.8	101.2	.007	.004	
48		MISSILE		1056.70						
49		Silo	50.8							
50		Aero								
51		Base	50.5							
52		Jett	318.61							

#Boeing Section Stations (See Missile Station Diagram)

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** Stage III Heat Deflector
S/N 0000915

ENGINEERS

VOL.

NO. D2-13944-661

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3.25 MISSILE NO. 701
WEIGHT AND BALANCE SUMMARY
MAJOR COMPONENTS S/N 000015

REPORT NO.

DATE

LINE	SEC.	DESCRIPTION	DATA	EXPENDED WEIGHT (LB)	TOTAL WEIGHT (LB)	CENTER OF GRAVITY			INERTIA SLUG FT ² x 10 ⁻³		
						LONG.*	LAT.	VERT.	ROLL	PITCH	
1	41	RV Spacer									
2		Silo									
3		Aero									
4	39	CTLX Section									
5		Silo									
6		Aero									
7	42	G&C Section		1.02	80.9	100.0	100.0	0	0		
8		Silo									
9		Aero									
10	44	3rd Stage Engine		20.16	94.82	106.88	111.21	0	.004		
11		Silo	0.6		89.2	110.3	117.7	0	0		
12		Aero									
13		Base	0.4		131.8	100.0	100.0	0	0		
14	45	Interstage 2-3		122.31	60.05	100.40	101.20	.012	.007		
15		(Fwd)	Silo								
16		Aero									
17		Base	4.6		58.7	108.7	110.0	0	0		
18		Silo	1.7		61.7	100.4	100.6	0	0		
19		Jettisoned Portion	Aero								
20		Base									
21		Jett	101.82		61.04	99.51	100.33	.011	.006		
22	45	Interstage 2-3		75.23	79.02	99.39	101.80	.008	.004		
23		(Aft)	Silo	2.6		81.2	100.6	101.0	0	0	
24		Aero									
25	46	2nd Stage Engine		39.05	149.60	105.44	109.46	.001	.021		
26		Silo	1.0		103.9	112.3	121.2	0	0		
27		Aero									
28		Base	3.3		187.7	100.0	100.0	0	0		
29	47	Interstage 1-2		253.46	67.21	99.80	101.11	.036	.023		
30		(Fwd)	Silo								
31		Aero									
32		Base	5.1		61.0	109.3	111.7	0	0		
33		Silo	4.9		67.2	100.0	100.0	.001	0		
34		Jettisoned Portion	Aero								
35		Base	7.3		67.4	100.3	100.2	.001	.001		
36		Jett	215.79		68.54	99.02	100.50	.032	.020		
37	42	Interstage 1-2		137.69	96.45	101.25	100.85	.028	.016		
38		(Aft)	Silo	5.6		97.6	101.5	102.6	.001	.001	
39		Aero									
40	48	1st Stage Engine		57.99	219.39	110.70	118.42	.003	.107		
41		Silo	2.4		160.5	117.2	129.7	0	.002		
42		Aero									
43		Base	3.0		314.6	100.0	100.0	0	0		
44	49	Skirt		348.09	68.97	100.76	100.94	.088	.052		
45		Silo	32.0		67.9	100.1	100.2	.008	.005		
46		Aero									
47		Base	26.8		68.2	100.8	101.2	.007	.004		
48		MISSILE		1055.00							
49		Silo	50.8								
50		Aero									
51		Base	50.5								
52		Jett	317.61								

*Boeing Section Stations (See Missile Station Diagram)

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BOEING | VOL

NO D2-13944-661

3.26

MISSILE NO. 703
WEIGHT AND BALANCE SUMMARY
MAJOR COMPONENTS S/N 0000158

REPORT NO.

DATE

LINE	SEC.	DESCRIPTION	DATA	EXPENDED WEIGHT (LB)	TOTAL WEIGHT (LB)	CENTER OF GRAVITY			INERTIA SLUG FT ² x10-3		
						LONG.	LAT.	VERT.	ROLL	PITCH	
1	41	RV Spacer									
2		Silo									
3		Aero									
4	39	CTLI Section									
5		Silo									
6		Aero									
7	42	G&C Section		1.02	80.9	100.0	100.0	0	0	0	
8		Silo									
9		Aero									
10	44	3rd Stage Engine		20.21	94.92	106.87	111.18	0	.004		
11		Silo	0.6		89.2	110.3	117.7	0	0		
12		Aero									
13		Base	0.4		731.8	100.0	100.0	0	0		
14	45	Interstage 2-3			123.39	60.18	100.36	101.20	.012	.007	
15		(Fwd)	Silo								
16		Aero									
17		Base	4.6		58.7	108.7	110.0	0	0		
18		Silo	1.7		61.7	100.4	100.6	0	0		
19		Jettisoned Portion	Aero								
20		Base									
21		Jett	102.90		61.20	99.48	100.33	.011	.006		
22	45	Interstage 2-3			76.00	79.02	99.39	101.80	.008	.004	
23		(Aft)	Silo	2.6		81.2	100.6	101.0	0	0	
24		Aero									
25	46	2nd Stage Engine			39.04	149.59	105.44	109.46	.001	.021	
26		Silo	1.0		103.9	112.3	121.2	0	0		
27		Aero									
28		Base	3.3		787.7	100.0	100.0	0	0		
29	47	Interstage 1-2			255.63	67.32	99.79	101.20	.036	.023	
30		(Fwd)	Silo								
31		Aero									
32		Base	5.1		61.0	109.3	111.7	0	0		
33		Silo	4.9		67.2	100.0	100.0	.001	0		
34		Jettisoned Portion	Aero								
35		Base	7.3		67.4	100.3	100.2	.004	.001		
36		Jett	217.96		68.66	99.02	100.60	.032	.020		
37	47	Interstage 1-2			138.97	96.45	101.25	100.85	.028	.016	
38		(Aft)	Silo	5.6		97.6	101.5	102.6	.001	.001	
39		Aero									
40	48	1st Stage Engine			57.91	219.25	110.72	118.44	.003	.107	
41		Silo	2.4		160.5	117.2	129.7	0	.002		
42		Aero									
43		Base	3.0		314.6	100.0	100.0	0	0		
44	49	Skirt			351.99	69.10	100.61	100.88	.088	.052	
45		Silo	32.0		67.9	100.1	100.2	.008	.005		
46		Aero									
47		Base	26.8		68.2	100.8	101.2	.007	.004		
48		MISSILE			1064.16						
49		Silo	50.8								
50		Aero									
51		Base	50.5								
52		Jett	520.86								

*Boeing Section Stations (See Missile Station Diagram)

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3.27 MISSILE NO. 705
WEIGHT AND BALANCE SUMMARY
MAJOR COMPONENTS S/N 0000159

REPORT NO.

DATE

LINE	SEC.	DESCRIPTION	DATA	EXPENDED WEIGHT (LB)	TOTAL WEIGHT (LB)	CENTER OF GRAVITY			INERTIA SLUG FT ² X10 ⁻³	
						LONG.	LAT.	VERT.	ROLL	PITCH
1	41	RV Spacer								
2		Silo								
3		Aero								
4	39	CTRL Section								
5		Silo								
6		Aero								
7	42	G&C Section		1.02	80.9	100.0	100.0	0	0	
8		Silo								
9		Aero								
10	44	3rd Stage Engine		20.30	95.09	106.84	111.13	0	.004	
11		Silo	0.6		89.2	110.3	117.7	0	0	
12		Aero								
13		Base	0.4		131.8	100.0	100.0	0	0	
14	45	Interstage 2-3		122.45	60.03	100.14	101.44	.012	.007	
15		(Fwd)	Silo							
16		Aero								
17		Base	4.6		58.7	108.7	110.0	0	0	
18		Silo	1.7		61.7	100.4	100.6	0	0	
19		Jettisoned	Aero							
20		Portion	Base							
21		Jett	101.96		61.02	99.21	100.61	.011	.006	
22	45	Interstage 2-3		75.34	79.02	99.39	101.80	.008	.004	
23		(Aft)	Silo	2.6	81.2	100.6	101.0	0	0	
24		Aero								
25	46	2nd Stage Engine		38.82	149.36	105.47	109.51	.001	.021	
26		Silo	1.0		103.9	112.3	121.2	0	0	
27		Aero								
28		Base	3.3		187.7	100.0	100.0	0	0	
29	47	Interstage 1-2		253.46	67.28	100.09	101.20	.036	.023	
30		(Fwd)	Silo							
31		Aero								
32		Base	5.1		61.0	109.3	111.7	0	0	
33		Silo	4.9		67.2	100.0	100.0	.001	0	
34		Jettisoned	Aero							
35		Portion	Base	7.3	67.4	100.3	100.2	.001	.001	
36		Jett	215.79		68.63	99.36	100.61	.032	.020	
37	47	Interstage 1-2		137.69	96.45	101.25	100.85	.028	.016	
38		(Aft)	Silo	5.6	97.6	101.5	102.6	.001	.001	
39		Aero								
40	48	1st Stage Engine		58.13	219.63	110.68	118.37	.003	.107	
41		Silo	2.4		160.5	117.2	129.7	0	.002	
42		Aero								
43		Base	3.0		314.6	100.0	100.0	0	0	
44	49	Skirt		348.54	68.99	100.60	100.93	.088	.052	
45		Silo	32.0		67.9	100.1	100.2	.008	.005	
46		Aero								
47		Base	26.8		68.2	100.8	101.2	.007	.004	
48		MISSILE		1055.75						
49		Silo	50.8							
50		Aero								
51		Base	50.5							
52		Jett	317.75							

*Boeing Section Stations (See Missile Station Diagram)

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348 MISSILE NO. Unassigned (Spare)
 WEIGHT AND BALANCE SUMMARY
 MAJOR COMPONENTS S/N 0000169

REPORT NO.

DATE

LINE	SEC	DESCRIPTION	DATA	EXPENDED WEIGHT (LB)	TOTAL WEIGHT (LB)	CENTER OF GRAVITY			INERTIA SLUG FT ² x 10 ⁻³	
						LONG.	LAT.	VIRT.	ROLL	PITCH
1	41	RV Spacer								
2		Silo								
3		Aero								
4	39	CTLI Section								
5		Silo								
6		Aero								
7	42	G&C Section		1.02	80.9	100.0	100.0	0	0	
8		Silo								
9		Aero								
10	44	3rd Stage Engine		20.27	95.03	106.85	111.15	0	.004	
11		Silo	0.6		89.2	110.3	117.7	0	0	
12		Aero								
13		Base	0.4		131.8	100.0	100.0	0	0	
14	45	Interstage 2-3			122.34	60.01	100.50	101.41	.012	.007
15		(Fwd)	Silo							
16		Aero								
17		Base	4.6		58.7	108.7	110.0	0	0	
18		Silo	1.7		61.7	100.4	100.6	0	0	
19		Jettisoned	Aero							
20		Portion	Base							
21			Jett	101.85		61.00	99.63	100.57	.011	.006
22	45	Interstage 2-3			75.25	79.02	99.39	101.80	.008	.004
23		(Aft)	Silo	2.6		81.2	100.6	101.0	0	0
24		Aero								
25	46	2nd Stage Engine			38.81	149.35	105.47	109.51	.001	.021
26		Silo	1.0		103.9	112.3	121.2	0	0	
27		Aero								
28		Base	3.3		187.7	100.0	100.0	0	0	
29	47	Interstage 1-2			250.69	67.39	100.11	100.99	.036	.023
30		(Fwd)	Silo							
31		Aero								
32		Base	5.1		61.0	109.3	111.7	0	0	
33		Silo	4.9		67.2	100.0	100.0	.001	0	
34		Jettisoned	Aero							
35		Portion	Base	7.3		67.4	100.3	100.2	.001	.001
36			Jett	213.02		68.77	99.38	100.36	.032	.020
37	47	Interstage 1-2			136.06	96.45	101.25	100.85	.028	.016
38		(Aft)	Silo	5.6		97.6	101.5	102.6	.001	.001
39		Aero								
40	48	1st Stage Engine			58.00	219.40	110.70	118.41	.003	.107
41		Silo	2.4		160.5	117.2	129.7	0	.002	
42		Aero								
43		Base	3.0		314.6	100.0	100.0	0	0	
44	49	Skirt			349.89	68.92	100.79	100.88	.088	.052
45		Silo	32.0		67.9	100.1	100.2	.008	.005	
46		Aero								
47		Base	26.8		68.2	100.8	101.2	.007	.004	
48		MISSILE			1052.33					
49		Silo	50.8							
50		Aero								
51		Base	50.5							
52		Jett	314.87							

*Boeing Section Stations (See Missile Station Diagram)

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3.29 WEIGHT AND BALANCE SUMMARY
 MEAN WEIGHT COMPONENTS **
 (APPLICABLE TO ALL MISSILES)

REPORT NO.

DATE

LINE	SEC.	DESCRIPTION	DATA	EXPENDED WEIGHT (LB)	TOTAL WEIGHT (LB)	CENTER OF GRAVITY			INERTIA SLUG FT ² x10 ⁻³	
						LONG.*	LAT.	VERT.	ROLL	PITCH
1	41	RV Spacer								
2			Silo							
3			Aero							
4	39	CTLI Section								
5			Silo							
6			Aero							
7	42	G&C Section		1.02	80.9	100.0	100.0			
8			Silo							
9			Aero							
10	44	3rd Stage Engine		14.02	78.05	109.90	116.12			
11			Silo							
12			Aero							
13			Base							
14	45	Interstage 2-3 (Fwd)		20.43	59.50	105.46	107.81			
15			Silo							
16			Aero							
17			Base							
18			Silo							
19		Jettisoned Portion	Aero							
20			Base							
21			Jett	9.44		61.56	101.43	104.88		
22	45	Interstage 2-3 (Aft)		8.16	81.65	99.34	98.49			
23			Silo							
24			Aero							
25	46	2nd Stage Engine		18.48	103.86	111.49	119.98			
26			Silo							
27			Aero							
28			Base							
29	47	Interstage 1-2 (Fwd)		23.65	64.87	105.68	111.26			
30			Silo							
31			Aero							
32			Base							
33			Silo							
34		Jettisoned Portion	Aero							
35			Base							
36			Jett	10.78		68.79	97.93	108.77		
37	47	Interstage 1-2 (Aft)		10.00	97.15	103.19	102.75			
38			Silo							
39			Aero							
40	48	1st Stage Engine		36.70	161.96	116.91	129.10			
41			Silo							
42			Aero							
43			Base							
44	49	Skirt		13.19	62.52	105.50	109.22			
45			Silo							
46			Aero							
47			Base							
48		MISSILE		145.65						
49			Silo							
50			Aero							
51			Base							
52			Jett							

* Boeing Section Stations (See Missile Diagram)

2-5550-0-58

** See Check List on Page 39
 for details.

BOEING

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**ENGINEERING CHANGE PROPOSAL (ECP) INCORPORATION
APPLICABLE TO WING I MISSILES 661 THROUGH 705**

The following ECP's have not been incorporated into "Model Specification Guided Missile Main Assemblage (S-133-1000)" Dated 12 March 1962 and amended by SCN 1 through SCN 8. However, the mass properties of these ECP's have been incorporated into this report unless otherwise noted.

ECP NO. (WS-133A-BO-)	ECP TITLE	STAGE	WEIGHT CHANGE	WEIGHT CHANGE INCORPORATED IN THIS REPORT
116-9	Linear Shaped Charge Destruct System - First Stage Engine	2	-.1	Yes
173	Cancellation of MRCN 6012	3	-.6	Yes
201	First Stage Thermal Insulation Revision-Operational Wing I Missiles	1	-1.4	Yes
232	Interstage Compatibility for CTLLI Kit	All	Negl.	Yes
233	Provisioning of Lower Raceway Foam-First Stage Engine	1	-.4	Yes
236	Second Stage CTLLI and Operational Raceway Foam Revisions	2	Negl.	Yes
259	Removal of Ramps from Stage I Forward Joint - Operational Wing I	1	-1.8	Yes
265	Lengthen Attach Bolts for Stage I Aft Raceway Cap	1	Negl.	Yes
277	Removal of Ramps from Second Stage Engine - Wing I Operational	2	-2.6	Yes
287	Boeing Support of Hercules Ignitor Basket Change	3	Negl.	Yes
326	Insulation of Autonetics Connector on Stage III Operational Pressure Transducer	3	Negl.	Yes
372	Insulation of Ordnance at R/W Cutout 1-2 and 2-3 Interstages	2&3	Negl.	Yes
540	Potting and Bonding Deletion for Vandenberg Air Force Base Missiles	1,2,3	-	No*

* ECP 540 postpones the potting of certain components on scheduled CTLLI missiles until final installation at Vandenberg Air Force Base. Since the potting is considered part of the operational weight, its mass properties are still included in this report even though it will be applied at VAFB.

2-5550-0-22

SERIAL NO. 0000130

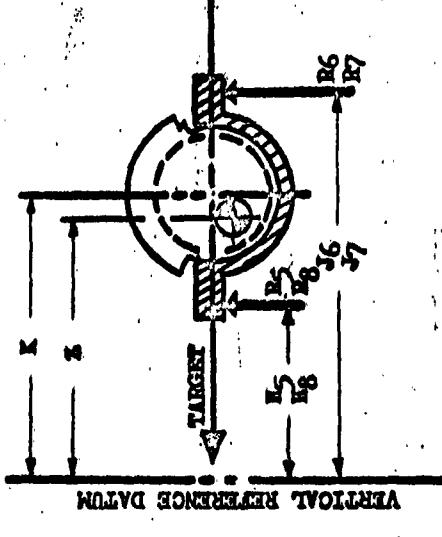
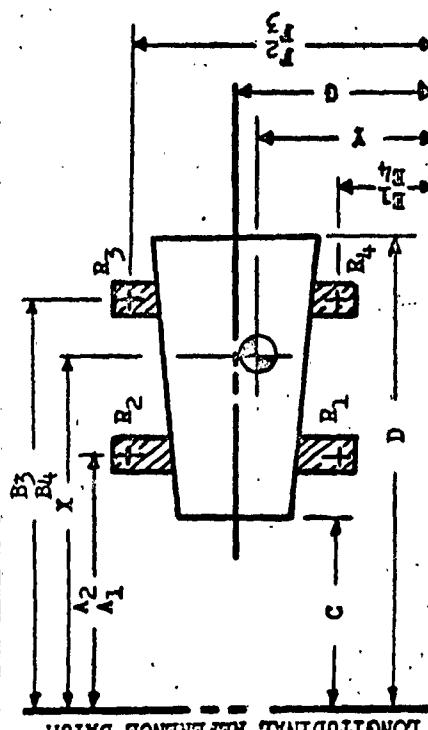
6.1.1 ACTUAL WEIGHT RECORD - INTERSTAGE

U/O MISSILE	661
MISSILE MODEL	W6-133
CONFIGURATION	T-1H

DRAWING NO.	25-27204-64
DCN	34
ADCN	

CHECK LIST NO.	5
REPORTED BY	RS/TV
CHECKED BY	GVR

PAGE NO.	OPR-2012
DATE	3/11/63



WEIGHING DATA

REACTION	GR. WT.	TARE	CORR.	NET WT.	REACTION	GR. WT.	TARE	CORR.	NET WT.	DATA	DATA	DATA	DATA	DATA	
R1	70.25	32.00		38.25	R5	66.40	30.00		36.40	A1	47.34	E1	80.000	H5	80.000
R2	151.45	103.80		47.65	R6	156.00	106.00		49.80	A2	47.35	E2	80.000	H8	80.000
R3	65.50	31.55		33.95	R7	68.15	29.20		38.95	B3	88.35	F2	120.000	J6	120.000
R4	153.15	103.75		49.40	R8	149.95	105.85		44.10	B4	88.35	F3	119.999	J7	119.999
TOTAL	440.35	271.10		169.25	TOTAL	440.50	271.25		169.25	C	50.000	G	100.000	K	100.000
										D	88.35				

LONGITUDINAL C.G.

LATERAL C.G.

VERTICAL C.G.

REACTION	NET WT.	ARM	MOMENT	REACTION	NET WT.	ARM	MOMENT	REACTION	NET WT.	ARM	MOMENT
R1	38.25	47.34		R1	38.25	80.000		R5	36.40	80.000	
R2	47.65	47.35		R2	47.65	120.000		R6	49.80	120.000	
R3	33.95	88.35		R3	33.95	119.999		R7	38.95	119.999	
R4	49.40	88.35		R4	49.40	80.000		R8	44.10	80.000	
AS WGD	169.25	67.54	11.431.3	AS WGD	169.25	99.28	16,804.0	AS WGD	169.25	100.97	17,090.0

BOEING

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FIG. 1A NUMBER: 6501

SERIAL NUMBER: 0000130

CHECK LIST NO.	DATE 3-11-63	ITEM NUMBER	SECTION <u>45</u>	MISSILE WEIGHING CHECK LIST		MISSILE NO. <u>661</u>		MISSILE		RECORD OF CHECKING (DATE)	
				MODEL <u>FS-133</u>	FINAL ASSEMBLY DRAWING NO. <u>21-50150</u>	MISSILE	COMPONENT	MISSILE	MISSILE	MISSILE	MISSILE
MISSILE COMPONENT BODY SECTION GUIDED MISSILE COMPONENT PART NO. Noted				WEIGHT		WEIGHT		WEIGHT		WEIGHT	
DESCRIPTION				PART NO.		WEIGHT	X ARM	Y ARM	Z ARM	WEIGHT	WEIGHT
BODY SECTION ASSY				25-27204-64						-	-
Interstage Assy - Structural				25-27203-13						X	X
Instr Rack & Accelerometer				25-31652-4						X	X
Marking Instl - Section 45				25-30134-						X	X
Cover - Insulating				29-25598-1						X	X
Cover - Insulating				29-24652-1						X	X
Cover - Insulating	(6)			29-23365-1						X	X
Cover - Insulating	(8)			29-23365-2						X	X
Cover - Insulating	(7)			29-23365-3						X	X
Cover - Insulating	(4)			29-23365-4						X	X
Cover - Insulating				29-23365-5						X	X
Cover - Insulating	(4)			29-23365-6						X	X
Seal - Forward	(2)			29-23674-1						X	X
Shield - Amplifier				29-23713-1						X	X
Shield - Amplifier				29-23713-2						X	X
Door - Access, Detonator				26-11878-1						X	X
Door - Access, Ignitor Stage III				26-11885-1						X	X
Door - Access, Detonator				26-12909-1						X	X
Door - Access, Ordnance	(3)			29-22673-1						X	X
Closure Panel - Access, Ordnance				29-22672-1						X	X
Door - Access, Ignitor Stage II				29-22361-1						X	X
Closure Panel - Access, Booster Sirt				29-22081-3						X	X
Bolt - 1000 Head	(2)			BACB30EM-3-3						X	X
Bolt - 1000 Head	(1)			BACB30EM-3-1						X	X
Bolt - 1000 Head	(1)			BACB30EM-4-4						X	X
Bolt - 1000 Head	(8)			BACB30EM-4-7						X	X
Bolt - 1000 Head	(30)			BACB30EM-4-10						X	X
Bolt - 1000 Head	(4)			BACB30EM-3-3						X	X
Plug Screw, Insulated				26-15247-3-6						X	X

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FIG. 'A' NUMBER - 6501

SERIAL NUMBER: 0000130

RECORD OF CHECKING (DATE)

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6.1.1 WEIGHT AND BALANCE CHANGE RECORD

ASSOCIATE CONTRACTOR	BOEING	CONTRACT NO.	AFO4(694)-046	REPORT NO.	OPR 2012
COMPONENT	INTERSTAGE 2-3	LOT NO.		DATE	3/11/63
MODEL NO.	WS-133	DRAWING NO.	25-27204-64	PREPARED	T. VOGEL
SERIAL NO.	00000130	U.O. MISSILE	661	APPROVED	G. ROBERTS

WEIGHT AND BALANCE

ENR	PART NO.	DESCRIPTION OF EQUIPMENT	WEIGHT			WEIGHT AND BALANCE		
			WEIGHT	X AXIS ARM	X AXIS MOMENT	Y AXIS ARM	Y AXIS MOMENT	Z AXIS ARM
1	25-27204-64	Body Section (As Weighed)	169.25	67.54	11,431.3	99.28	16,804.0	100.97
2								
3								
4								
5	ADD:		0					
6								
7	DEDUCT:		0					
8								
9								
10								
11	25-27204-64	Body Section (Completed)	169.25	67.54	11,431.3	99.28	16,804.0	100.97
12								
13								
14								
15								
16								
17								
18								
19								
20								
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BOEING

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6.1.2 WEIGHT AND BALANCE CHANGE RECORD

ASSOCIATE CONTRACTOR		BELLING	CONTRACT NO.	AFO4(694)-046	REPORT NO.	OPR-2014
COMPONENT	INTERSTAGE 2-3	LOT NO.			DATE	3/14/63
MODEL NO.	MS-133	DRAWING NO.	25-27204-64		PREPARED	R. ST. ROMAIN
SERIAL NO.	00001-31	U.O. MISSILE	664		APPROVED	G. ROBERTS
EQUIPMENT CHANGE RECORD		WEIGHT AND BALANCE				
ITEM	DESCRIPTION OF EQUIPMENT	WEIGHT	X AXIS ARM	X AXIS MOMENT	Y AXIS ARM	Z AXIS MOMENT
1						
2	25-27204-64 Body Section (As Weighted)	168.70	67.75	11,429.8	99.32	16,756.0
3						
4						
5	ADD:	0				
6						
7						
8	DEDUCT:	0				
9						
10						
11	25-27204-64 Body Section (Complete)	168.70	67.75	11,429.8	99.32	16,756.0
12						
13						
14						
15						
16						
17						
18						
19						
20						
21						
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BOEING

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6.1.3 WEIGHT AND BALANCE CHANGE RECORD

ASSOCIATE CONTRACTOR BOEING
INTERSTAGE 2-3
COMPONENT MS-133
MODEL NO. 0000132
SERIAL NO.

CONTRACT NO. AF04(694)-046
LOT NO. 25-27204-64
DRAWING NO. U.O. MISSILE 668

REPORT NO. OPR-2017
DATE 3/18/63
PREPARED H. CHRISTJANSEN
APPROVED G. ROBERTS

EQUIPMENT CHANGE RECORD		WEIGHT AND BALANCE					
ENR	PART NO.	DESCRIPTION OF EQUIPMENT	WEIGHT	X AXIS	Y AXIS	Z AXIS	
			ARM	ARM	ARM	ARM	ARM
1							
2	25-27204-64	Body Section (As Weighed)	168.35	67.44	11,353.8	99.33	16,721.9
3							
4							
5		ADD:	0				
6							
7							
8		DEDUCT:	0				
9							
10							
11	25-27204-64	Body Section (Complete)	168.35	67.44	11,353.8	99.33	16,721.9
12							
13							
14							
15							
16							
17							
18							
19							
20							
21							
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BOEING

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6.1.4 WEIGHT AND BALANCE CHANGE RECORD

ASSOCIATE CONTRACTOR	DOEING	CONTRACT NO.	AFC4(694)-046	REPORT NO.	OPR-2020
COMPONENT	INTERSTAGE 2-3	LOT NO.		DATE	3/18/63
MODEL NO.	WS-133	DRAWING NO.	25-27204-64	PREPARED	H. CHRISTIANSEN
SERIAL NO.	00000133	U.O. MISSILE	672	APPROVED	G. ROBERTS

EQUIPMENT CHANGE RECORD

ENT	PART NO.	DESCRIPTION OF EQUIPMENT	WEIGHT AND BALANCE		
			WEIGHT	X AXIS ARM	Y AXIS ARM
1					
2	25-27204-64	Body Section (As Weighed)	170.40	67.62	11,522.7
3					
4					
5		ADD:	0		
6					
7					
8		DEDUCT:	0		
9					
10					
11	25-27204-64	Body Section (Complete)	170.40	67.62	11,522.7
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
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6.1.5 WEIGHT AND BALANCE CHANGE RECORD

ASSOCIATE CONTRACTOR	BOEING	CONTRACT NO.	AFO4(694)-046	REPORT NO.	OPR-2013
COMPONENT	INTERSTAGE 2-3	LOT NO.		DATE	3/11/63
MODEL NO.	WS-133	DRAWING NO.	25-27204-64	PREPARED	H. CHRISTIANSEN
SERIAL NO.	00000142	U.O. MISSILE	663	APPROVED	G. ROBERTS

EQUIPMENT CHANGE RECORD

LINE	PART NO.	DESCRIPTION OF EQUIPMENT	WEIGHT AND BALANCE						
			X AXIS		Y AXIS		Z AXIS		
			WEIGHT	ARM	moment	ARM	moment	ARM	moment
1									
2	25-27204-64	Body Section (As Weighed)	169.20	67.45	11,412.5	99.41	16,819.9	100.79	17,053.9
3									
4									
5	ADD:		0						
6									
7									
8	DEDUCT:		0						
9									
10									
11	25-27204-64	Body Section (Complete)	169.20	67.45	11,412.5	99.41	16,819.9	100.79	17,053.9
12									
13									
14									
15									
16									
17									
18									
19									
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616 WEIGHT AND BALANCE CHANGE RECORD

ASSOCIATE CONTRACTOR BOEING
COMPONENT INTERSTAGE 2-3
MODEL NO. WS-133
SERIAL NO. 0000143

CONTRACT NO.	AFO4(694)-046	REPORT NO.	OPR-2015
LOT NO.		DATE	3/18/63
DRAWING NO.	25-27204-64	PREPARED	H. CHRISTLANSEN
U.O. MISSILE	665	APPROVED	G. ROBERTS

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6.1.7

WEIGHT AND BALANCE CHANGE RECORD

ASSOCIATE CONTRACTOR BOEING
INTERSTAGE 2-3
COMPONENT VS-133
MODEL NO. 0000144
SERIAL NO.

CONTRACT NO. AF04(694)-046
LOT NO. 25-27204-64
DRAWING NO. 670
U.O. MISSILE

REPORT NO. OPR-2018
DATE 3/18/63
PREPARED H. CHRISTIANSEN
APPROVED G. ROBERTS

EQUIPMENT CHANGE RECORD

ENT	PART NO.	DESCRIPTION OF EQUIPMENT	WEIGHT AND BALANCE					
			WEIGHT	X AXIS	Y AXIS	Z AXIS	ARM	ARM
1	25-27204-64	Body Section (As Weighed)	169.75	67.51	11.459.0	99.42	16,875.9	100.67
2								
3								
4								
5		ADD:	0					
6								
7								
8		DEDUCT:	0					
9								
10	25-27204-64	Body Section (Complete)	169.75	67.51	11.459.0	99.42	16,875.9	100.67
11								
12								
13								
14								
15								
16								
17								
18								
19								
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6.1.8 WEIGHT AND BALANCE CHANGE RECORD

ASSOCIATE CONTRACTOR BOEING
COMPONENT INTERSTAGE 2-3
MODEL NO. WS-133
SERIAL NO. 0000145

CONTRACT NO. AF04(694)-046
LOT NO. 25-27204-64
DRAWING NO. U.O. MISSILE
671

REPORT NO. OPR-2019
DATE 3/18/63
PREPARED T. VOCH
APPROVED G. ROBERTS

EQUIPMENT CHANGE RECORD

EN'T	PART NO.	DESCRIPTION OF EQUIPMENT	WEIGHT AND BALANCE		
			WEIGHT	X AXIS ARM	Y AXIS ARM
1					
2	25-27204-64	Body Section (As Weighed)	169.10	67.57	11,426.2
3					
4					
5		ADD:	0		
6					
7					
8		DEDUCT:	0		
9					
10					
11	25-27204-64	Body Section (Complete)	169.10	67.57	11,426.2
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
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6.1.9 WEIGHT AND BALANCE CHANGE RECORD

ASSOCIATE CONTRACTOR	BOEING	CONTRACT NO.	AEO4(6G)1-946	REPORT NO.	OPR-2321
COMPONENT	INTERSTAGE 2-2	LOT NO.		DATE	3/20/63
MODEL NO.	WS-133	DRAWING NO.	25-27204-64	PREPARED	R. ST. RONAIN
SERIAL NO.	0000146	U.O. MISSILE	673	APPROVED	G. ROBERTS

EQUIPMENT CHANGE RECORD

PART NO.	DESCRIPTION OF EQUIPMENT	WEIGHT AND BALANCE			
		WEIGHT	X AXIS ARM	Y AXIS ARM	Z AXIS ARM
1					
2	25-27204-64 Body Section (As Weifred)	170.75	67.81	11,578.1	99.14
3					
4					
5	ADD:	0			
6					
7	DEDUCE:	0			
8					
9					
10					
11	25-27204-64 Body Section (Complete)	170.75	67.81	11,578.1	99.14
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
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6.1.10 WEIGHT AND BALANCE CHANGE RECORD

ASSOCIATE CONTRACTOR	BOEING	CONTRACT NO.	A004 (694) -046	REPORT NO.	OPR-2023
COMPONENT	INTERSTAGE 2-3	LOT NO.		DATE	3/25/63
MODEL NO.	WS-133	DRAWING NO.	25-27204-64	PREPARED	H. CHRISTIANSEN
SERIAL NO.	00000147	U.O. MISSILE	671	APPROVED	G. ROBERTS

EQUIPMENT CHANGE RECORD

ITEM	DESCRIPTION OF EQUIPMENT	WEIGHT AND BALANCE					
		WEIGHT	X AXIS ARM	X AXIS MOMENT	Y AXIS ARM	Y AXIS MOMENT	Z AXIS ARM
1	225-27204-64 Body Section (As Weighed)	168.85	67.60	11,413.9	99.34	16,774.0	100.88
2							
3							
4							
5	ADD:	0					
6							
7							
8	DEDUCT:	0					
9							
10							
11	225-27204-64 Body Section (Complete)	168.85	67.60	11,413.9	99.34	16,774.0	100.88
12							
13							
14							
15							
16							
17							
18							
19							
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WEIGHT AND BALANCE CHANGE RECORD

ASSOCIATE CONTRACTOR	BOEING	CONTRACT NO.	AFCB(624)-046	REPORT NO.	OPR-2024
COMPONENT	INTERSTAGE 2-3	LOT NO.		DATE	3/22/63
MODEL NO.	RS-133	DRAWING NO.	25-27204-64	PREPARED	R. ST. RODIN
SERIAL NO.	0000148	U.O. MISSILE	678	APPROVED	G. ROBERTS

EQUIPMENT CHANGE RECORD

ENT#	DESCRIPTION OF EQUIPMENT	WEIGHT AND BALANCE					
		WEIGHT	X AXIS ARM	X AXIS MOMENT	Y AXIS ARM	Y AXIS MOMENT	Z AXIS ARM
1							
2	25-27204-64 Body Section (As Weighed)	167.95	67.50	11,337.0	99.24	16,668.0	100.86
3							
4							
5	ADD:	0					
6							
7							
8	DEDUCE:	0					
9							
10							
11	25-27204-64 Body Section (Complete)	167.95	67.50	11,337.0	99.24	16,668.0	100.86
12							
13							
14							
15							
16							
17							
18							
19							
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WEIGHT AND BALANCE CHANGE RECORD							
ASSOCIATE CONTRACTOR			SOEITING	CONTRACT NO.	AFO4(694)-046	REPORT NO.	OPR-2026
COMPONENT			EPIERSTAGE 2-3	LOT NO.		DATE	3/28/63
MODEL NO.			WS-133	DRAWING NO.	25-27204-64	PREPARED	H. CHRISTIANSEN
SERIAL NO.			0000149	U.O. MISSILE	682	APPROVED	G. ROBERTS
EQUIPMENT CHANGE RECORD							
ENT	PART NO.	DESCRIPTION OF EQUIPMENT	WEIGHT	X AXIS ARM & MOMENT	Y AXIS ARM & MOMENT	Z AXIS ARM & MOMENT	
1							
2	25-27204-64	Body Section (As Retired)	170.50	67.55	11,517.1	99.41	
3							
4							
5		ADD:	0				
6							
7							
8		DEDUCT:	0				
9							
10							
11	25-27204-64	Body Section (Complete)	170.50	67.55	11,517.1	99.41	
12							
13							
14							
15							
16							
17							
18							
19							
20							
21							
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WEIGHT AND BALANCE CHANGE RECORD

ASSOCIATE CONTRACTOR	BOEING	CONTRACT NO.	AFO4(694)-046	REPORT NO.	OPR 2027
COMPONENT	INTERSTAGE 2-3	LOT NO.		DATE	3/28/63
MODEL NO.	WS-133	DRAWING NO.	25-27204-64	PREPARED	H. CHRISTIANSEN
SERIAL NO.	0000150	U.O. MISSILE	684	APPROVED	G. ROBERTS

EQUIPMENT CHANGE RECORD

ITEM	PART NO.	DESCRIPTION OF EQUIPMENT	WEIGHT AND BALANCE		
			WEIGHT	X AXIS ARM	Y AXIS ARM
1	,				
2	25-27204-64	Body Section (As Weighed)	170.60	67.61	11,534.2
3					
4					
5	ADD:		0		
6					
7					
8	DEDUCT:		0		
9					
10					
11	25-27204-64	Body Section (Complete)	170.60	67.61	11,534.2
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
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WEIGHT AND BALANCE CHANGE RECORD

ASSOCIATE CONTRACTOR BOEING CONTRACT NO. AFO4(694)-046
 COMPONENT INTERSTAGE 2-3 LOT NO.
 MODEL NO. WS-133 DRAWING NO. 25-27204-64
 SERIAL NO. 00000151 U.O. MISSILE 685

REPORT NO. OPR-2028
 DATE 4/2/63
 PREPARED R. ST. ROMAIN
 APPROVED G. ROBERTS

EQUIPMENT CHANGE RECORD

ENT	PART NO.	DESCRIPTION OF EQUIPMENT	WEIGHT			X AXIS			Y AXIS			Z AXIS		
			WEIGHT	ARM	moment	ARM	moment	ARM	moment	ARM	moment	ARM	moment	ARM
1														
2	25-27204-64	Body Section (As Weighed)	168.60	67.50	11,380.0	99.41	16,760.0	101.01	17,030.0					
3														
4														
5		ADD:	0											
6														
7														
8		DEDUCT:	0											
9														
10														
11	25-27204-64	Body Section (Complete)	168.60	67.50	11,380.0	99.41	16,760.0	101.01	17,030.0					
12														
13														
14														
15														
16														
17														
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WEIGHT AND BALANCE CHANGE RECORD

ASSOCIATE CONTRACTOR	BOEING	CONTRACT NO.	AFO4(694)-046	REPORT NO.	OPR-2029
COMPONENT	INTERSTAGE 2-3	LOT NO.		DATE	4/2/63
MODEL NO.	VS-133	DRAWING NO.	25-27204-64	PREPARED	W. FAIRD
SERIAL NO.	00000152	U.O. MISSILE	689	APPROVED	G. ROBERTS

EQUIPMENT CHANGE RECORD

ENT	PART NO.	DESCRIPTION OF EQUIPMENT	WEIGHT AND BALANCE		
			WEIGHT	X AXIS ARM	Y AXIS ARM
1	25-27204-64	Body Section (As Weighed)	169.15	67.65	11,442.9
2					
3					
4					
5		ADD:	0		
6					
7					
8		DEDUCT:	0		
9					
10					
11	25-27204-64	Body Section (Complete)	169.15	67.65	11,442.9
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
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WEIGHT AND BALANCE CHANGE RECORD

ASSOCIATE CONTRACTOR	BOEING	CONTRACT NO.	AFO4(694)046	REPORT NO.	OPR-2030
COMPONENT	LITERSTAGE 2-3	LOT NO.		DATE	4/2/63
MODEL NO.	MS-133	DRAWING NO.	25-27204-64	PREPARED	V. FAIRD
SERIAL NO.	0000153	U.O. MISSILE	691	APPROVED	G. ROBERTS

WEIGHT AND BALANCE

ENT	PART NO.	DESCRIPTION OF EQUIPMENT	WEIGHT AND BALANCE		
			WEIGHT	X AXIS ARM	Y AXIS ARM
1					
2	25-27204-64	Body Section (As Weighed)	168.80	67.55 11,401.8	99.18 16,742.0
3					
4					
5	ADD:		0		
6					
7					
8	DEDUCT:		0		
9					
10					
11	25-27204-64	Body Section (Complete)	168.80	67.55 11,401.8	99.18 16,742.0
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
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WEIGHT AND BALANCE CHANGE RECORD

ASSOCIATE CONTRACTOR	BOEING	CONTRACT NO.	AFO4(694)-046	REPORT NO.	OPR-2032
COMPONENT	INTERSTAGE 2-3	LOT NO.		DATE	4/3/63
MODEL NO.	WS-133	DRAWING NO.	25-27204-64	PREPARED	M. BAIRD
SERIAL NO.	0000154	U.O. MISSILE	694	APPROVED	G. ROBERTS

EQUIPMENT CHANGE RECORD

ENT	PART NO.	DESCRIPTION OF EQUIPMENT	WEIGHT AND BALANCE		
			WEIGHT	X AXIS ARM	X AXIS MOMENT
1					
2	25-27204-64	Body Section (As Weighed)	168.65	67.66	11,411.0
3					
4					
5	ADD:		0		
6					
7					
8	DEDUCT:		0		
9					
10					
11	25-27204-64	Body Section (Complete)	168.65	67.66	11,411.0
12					
13					
14					
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BOEING

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WEIGHT AND BALANCE CHANGE RECORD

ASSOCIATE CONTRACTOR BOEING
COMPONENT INTERSTAGE 2-3
MODEL NO. YS-113
SERIAL NO. 0000155

CONTRACT NO. AF04(694)-046
LOT NO.
DRAWING NO. 25-27204-64
U.C. MISSILE 696

REPORT NO. OPR-2033
DATE 4/2/63
PREPARED M. FAIRD
APPROVED G. ROBERTS

EQUIPMENT CHANGE RECORD

ITEM PART NO. DESCRIPTION OF EQUIPMENT

WEIGHT AND BALANCE

ITEM	PART NO.	DESCRIPTION OF EQUIPMENT	WEIGHT	X AXIS	Y AXIS	Z AXIS
			WEIGHT	ARM	ARM	ARM
			ARM	ARM	ARM	MOMENT
1						
2	25-27204-64	Body Section (As Weighed)	167.65	67.53	11,320.7	99.16
3						
4						
5	ADD:		0			
6						
7						
8	DEDUCT:		0			
9						
10						
11	25-27204-64	Body Section (Complete)	167.65	67.53	11,320.7	99.16
12						
13						
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BOEING

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WEIGHT AND BALANCE CHANGE RECORD

ASSOCIATE CONTRACTOR BOEING
 COMPONENT INTERSTAGE 2-3
 MODEL NO. WS-133
 SERIAL NO. 00000156

CONTRACT NO. AFO4(694)-046
 LOT NO. 25-27204-64
 DRAWING NO. 699
 U.O. MISSILE

REPORT NO. OPR-2035
 DATE 4/5/63
 PREPARED W. FAIRD
 APPROVED G. ROBERTS

EQUIPMENT CHANGE RECORD

ENT	PART NO.	DESCRIPTION OF EQUIPMENT	WEIGHT AND BALANCE					
			WEIGHT	X AXIS ARM	X AXIS MOMENT	Y AXIS ARM	Y AXIS MOMENT	Z AXIS ARM
1	25-27204-64	Body Section (As Weighed)	170.40	67.57	11,514.5	99.37	16,932.0	100.85
2								17.184.0
3								
4								
5		ADD:		0				
6								
7								
8		DEDUCT:		0				
9								
10	25-27204-64	Body Section (Complete)	170.40	67.57	11,514.5	99.37	16,932.0	100.85
11								17.184.0
12								
13								
14								
15								
16								
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BOEING

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WEIGHT AND BALANCE CHANGE RECORD

ASSOCIATE CONTRACTOR	BOEING	CONTRACT NO.	AIROL(604)-046	REPORT NO.	OPR-2036
COMPONENT	INTERSTAGE 2-3	LOT NO.		DATE	4/10/63
MODEL NO.	WS-133	DRAWING NO.	25-27204-64	PREPARED	H. CHRISTIANSEN
SERIAL NO.	0000157	U.O. MISSILE	701	APPROVED	G. ROBERTS

EQUIPMENT CHANGE RECORD

ENT	PART NO.	DESCRIPTION OF EQUIPMENT	WEIGHT AND BALANCE				
			WEIGHT	X AXIS ARM	X AXIS MOMENT	Y AXIS ARM	Y AXIS MOMENT
1							
2	25-27204-64	Body Section (As Weighed)	168.95	67.52	11,406.8	99.39	16,791.9
3							
4							
5	ADD:		0				
6							
7							
8	DEDUCT:		0				
9							
10							
11	25-27204-64	Body Section (Complete)	168.95	67.52	11,406.8	99.39	16,791.9
12							
13							
14							
15							
16							
17							
18							
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WEIGHT AND BALANCE CHANGE RECORD

ASSOCIATE CONTRACTOR	BOEING	CONTRACT NO.	AFCO-(69½)-046	REPORT NO.	OPR-2037
COMPONENT	INTERSTAGE 2-3	LOT NO.		DATE	4/8/63
MODEL NO.	WS-133	DRAWING NO.	25-27204-64	PREPARED	H. CHRISTIANSEN
SERIAL NO.	0000158	U.O. MISSILE	703	APPROVED	G. ROBERTS

EQUIPMENT CHANGE RECORD

ENT	PART NO.	DESCRIPTION OF EQUIPMENT	WEIGHT			WEIGHT AND BALANCE		
			WEIGHT	X AXIS	ARM	Y AXIS	ARM	Z AXIS
1	25-27204-64	Body Section (As Weighed)	170.80	67.62	11,549.8	99.37	16,912.0	100.81
2								
3								
4								
5	ADD:		0					
6								
7								
8	DEDUCT:		0					
9								
10	25-27204-64	Body Section (Completed)	170.80	67.62	11,549.8	99.37	16,912.0	100.81
11								
12								
13								
14								
15								
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BOEING

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WEIGHT AND BALANCE CHANGE RECORD

ASSOCIATE CONTRACTOR	BOEING	CONTRACT NO.	AFO4(694)-046	REPORT NO.	OPR-2038
COMPONENT	INTERSTAGE 2-3	LOT NO.		DATE	4/10/63
MODEL NO.	WS-133	DRAWING NO.	25-27204-64	PREPARED	H. CHRISTIANSEN
SERIAL NO.	O-00159	U.O. MISSILE	T05	APPROVED	G. ROBERTS

EQUIPMENT CHANGE RECORD

ITEM	PART NO.	DESCRIPTION OF EQUIPMENT	WEIGHT AND BALANCE					
			WEIGHT	X AXIS ARM	X AXIS MOMENT	Y AXIS ARM	Y AXIS MOMENT	Z AXIS ARM
1								
2	25-27204-64	Body Section (As W _e)	169.20	67.51	11,422.8	99.21	16,786.0	100.97
3								
4								
5	ADD:		0					
6								
7	DEDUCT:		0					
8								
9								
10								
11	25-27204-64	Body Section (Complete)	169.20	67.51	11,422.8	99.21	16,786.0	100.97
12								
13								
14								
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16								
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WEIGHT AND BALANCE CHANGE RECORD

ASSOCIATE CONTRACTOR	BOEING	CONTRACT NO.	AFO4(694)-046	REPORT NO.	OPR-2010
COMPONENT	INTERSTAGE 2-3	LOT NO.		DATE	3/3/63
MODEL NO.	WS-133	DRAWING NO.	25-21204-64	PREPARED	R. ST. ROBERT
SERIAL NO.	0000169	U.O. MISSILE		APPROVED	G. ROBERT

WEIGHT AND BALANCE

EQUIPMENT CHANGE RECORD		WEIGHT AND BALANCE					
PART NO.	DESCRIPTION OF EQUIPMENT	WEIGHT	X AXIS ARM MOMENT	Y AXIS ARM MOMENT	Z AXIS ARM MOMENT		
1							
2	25-27204-64 Body Section (As Weighed)	169.00	67.49	11,405.1	99.47	16,810.0	100.95
3							
4							
5	ADD:	0					
6							
7							
8	DEDUCT:	0					
9							
10	25-27204-64 Body Section (Complete)	169.00	67.49	11,405.1	99.47	16,810.0	100.95
11							
12							
13							
14							
15							
16							
17							
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WEIGHT AND BALANCE CHANGE RECORD

ASSOCIATE CONTRACTOR	BOEING	CONTRACT NO.	AFO4(GG4)-946	REPORT NO.	OPR-2022
COMPONENT	INTERSTAGE 2-3	LOT NO.		DATE	3/21/63
MODEL NO.	WS-133	DRAWING NO.	25-27204-64	PREPARED	H. CHRISTIANSEN
SERIAL NO.	00000170	U.O. MISSILE	675	APPROVED	G. ROBERTS

EQUIPMENT CHANGE RECORD

SEQ	EQUIPMENT CHANGE RECORD		WEIGHT AND BALANCE			
	PART NO.	DESCRIPTION OF EQUIPMENT	WEIGHT	X AXIS	Y AXIS	Z AXIS
			ARM	ARM	ARM	ARM
1						
2	25-27204-64	Body Section (As Weighed)	168.60	67.49	11.318.0	99.30
3						
4						
5	ADD:		0			
6						
7						
8	DEDUCT:		0			
9						
10						
11	25-27204-64	Body Section (Complete)	168.60	67.49	11.318.0	99.30
12						
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BOEING

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WEIGHT AND BALANCE CHANGE RECORD

ASSOCIATE CONTRACTOR BOEING
 COMPONENT INTERSTAGE 2-3
HS-133
0000171
 MODEL NO.
 SERIAL NO.

CONTRACT NO. AFO4(694)-046
 LOT NO.
 DRAWING NO. 25-27204-64
U.O. MISSILE
692

REPORT NO. OPR-2031
 DATE 4/4/63
 PREPARED W. BAIRD
 APPROVED G. ROBERTS

EQUIPMENT CHANGE RECORD

UNIT	PART NO.	DESCRIPTION OF EQUIPMENT	WEIGHT AND BALANCE					
			WEIGHT	X AXIS ARM	X AXIS MOMENT	Y AXIS ARM	Y AXIS MOMENT	Z AXIS ARM
1	25-27204-64	Body Section (As Weighed)	170.05	67.63	11,500.0	99.32	16,890.0	100.85
2								
3								
4								
5		ADD:	0					
6								
7		DEDUCT:	0					
8								
9								
10	25-27204-64	Body Section (Complete)	170.05	67.63	11,500.0	99.32	16,890.0	100.85
11								
12								
13								
14								
15								
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WEIGHT AND BALANCE CHANGE RECORD

ASSOCIATE CONTRACTOR	BOEING	CONTRACT NO.	AFO1(694)-046	REPORT NO.	OPR-2016
COMPONENT	INTERSTAGE 2-3	LOT NO.		DATE	3/18/63
MODEL NO.	WS-133	DRAWING NO.	25-27204-64	PREPARED	H. CHRISTIANSEN
SERIAL NO.	0000178	U.O. MISSILE	666	APPROVED	G. ROBERTS

EQUIPMENT CHANGE RECORD

ENR#	PART NO.	DESCRIPTION OF EQUIPMENT	WEIGHT AND BALANCE					
			WEIGHT	X AXIS ARM	X AXIS MOMENT	Y AXIS ARM	Y AXIS MOMENT	Z AXIS ARM
1	225-27204-64	Body Section (As Weighed)	169.55	67.53	11,449.6	99.36	16,845.9	100.73
2								
3								
4								
5		ADD:	0					
6								
7		DEDUCT:	0					
8								
9								
10								
11	225-27204-64	Body Section (Complete)	169.55	67.53	11,449.6	99.36	16,845.9	100.73
12								
13								
14								
15								
16								
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BOEING

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WEIGHT AND BALANCE CHANGE RECORD

ASSOCIATE CONTRACTOR	BOEING	CONTRACT NO.	AFO4(694)-046	REPORT NO.	OPR-2025
COMPONENT	INTERSTAGE 2-3	LOT NO.		DATE	3-28-63
MODEL NO.	WS-133	DRAWING NO.	25-27204-64	PREPARED	H. CHRISTIANSEN
SERIAL NO.	0000179	U.O. MISSILE	680	APPROVED	G. ROBERTS

EQUIPMENT CHANGE RECORD

ITEM	PART NO.	DESCRIPTION OF EQUIPMENT	WEIGHT AND BALANCE						
			WEIGHT	X AXIS ARM	X AXIS MOMENT	Y AXIS ARM	Y AXIS MOMENT	Z AXIS ARM	Z AXIS MOMENT
1									
2	25-27204-64	Body Section (As Weighed)	170.35	67.63	11,520.2	99.15	16,889.9	100.91	17,189.9
3									
4									
5	ADD:		0						
6									
7									
8	DEDUCE:		0						
9									
10									
11	25-27204-64	Body Section (Complete)	170.35	67.63	11,520.2	99.15	16,889.9	100.91	17,189.9
12									
13									
14									
15									
16									
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BOEING

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WEIGHT AND BALANCE CHANGE RECORD

ASSOCIATE CONTRACTOR	BOEING	CONTRACT NO.	AF04(694)-046	REPORT NO.	OPR-2034
COMPONENT	INTERSTAGE 2-3	LOT NO.		DATE	4/4/63
MODEL NO.	WS-133	DRAWING NO.	25-27204-64	PREPARED	N. PATRD
SERIAL NO.	00000180	U.O. MISSILE	698	APPROVED	G. ROBERTS

EQUIPMENT CHANGE RECORD

ITEM	DESCRIPTION OF EQUIPMENT	WEIGHT AND BALANCE					
		WEIGHT	X AXIS	Y AXIS	Z AXIS	ARM	MOMENT
1							
2	25-27204-64 Body Section (As Weighed)	168.55	67.53	11,381.8	99.35	16,746.0	100.91
3							
4							
5	ADD:	0					
6							
7							
8	DEDUCT:	0					
9							
10							
11	25-27204-64 Body Section (Complete)	168.55	67.53	11,381.8	99.35	16,746.0	100.91
12							
13							
14							
15							
16							
17							
18							
19							
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SERIAL NO. 0000130

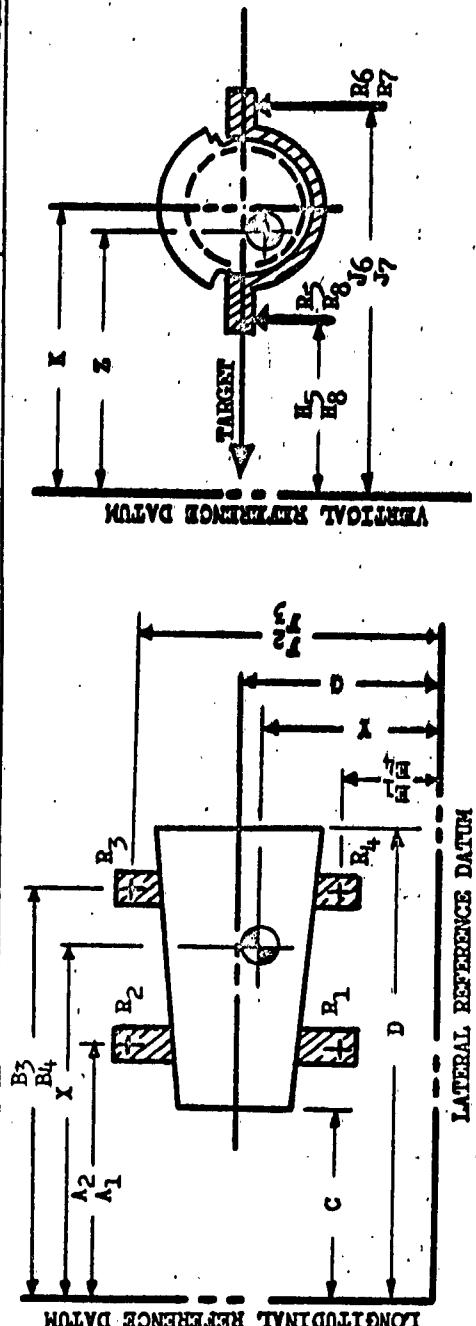
6.2.1 ACTUAL WEIGHT RECORD - INTERSTAGE

U/O MISSILE	661
MISSILE MODEL	WS-173
CONFIGURATION	TAH

DRAWING NO.	25-27201-11
DCN	H
ADCN	40

CHECK LIST NO.	7
REPORTED BY	TV-RS
CHECKED BY	GVR
PAGE NO.	OPR-2012
DATE	3-13-63

2-5550-0-22



WEIGHING DATA

REACTION	GR. WT.	TARE	NET WT.	CORR.	REACTION	GR. WT.	TARE	CORR.	NET WT.	DIM.	INCHES	DIM.	INCHES	DIM.	INCHES
R1	170.05	84.20		85.85	B5	197.45	113.85		83.60	A1	49.072	E1	70.001	H5	70.001
R2	242.00	142.00		100.00	B6	215.30	112.50		102.80	A2	49.070	E4	70.002	H8	70.002
R3	146.40	67.35		79.05	E7	174.85	96.65		78.20	B3	109.070	F2	130.002	J6	130.002
R4	217.45	125.00		92.45	R8	188.50	95.75		92.75	B4	109.070	F3	130.000	J7	130.000
TOTAL	775.90	418.55		357.35	TOTAL	776.10	418.75		357.35	C	50.000	G	100.000	K	100.000

LONGITUDINAL C.G.

REACTION	NET WT.	ARM	MOMENT	REACTION	NET WT.	ARM	MOMENT	REACTION	NET WT.	ARM	MOMENT	REACTION	NET WT.	ARM	MOMENT
R1	85.85	19.072		R1	85.85	19.001		R5	83.60	70.001					
R2	100.00	49.070		R2	100.00	130.002		R6	102.80	130.002					
R3	79.05	109.070		R3	79.05	130.000		R7	78.20	130.000					
R4	92.45	109.070		R4	92.45	109.002		R8	92.75	109.002					
AS WGD	357.35	776.10		AS WGD	357.35	100.06		AS WGD	357.35	100.39					

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BOEING

FIG. 141 NUMBER: 6701

SERIAL NUMBER: 0000130

ITEM NUMBER	DESCRIPTION	PART NO.	WEIGHT	X ARM	Y ARM	Z ARM	MISSILE NO. <u>661</u> Noted			RECORD OF CHECKING DATE		
							MISSILE WEIGHTED SITE	AS RECEIVED SITE	SHIPPING SITE	AS REMOTE SITE	AS WEIGHED SITE	LAUNCH MISSILE
	BODY SECTION ASSY	25-27201-11									-	-
	Interstage Assy - Structural	25-27200-21									X	X
	Seal	25-27201-4									X	X
	Seal	25-27201-5									X	X
	Seal	25-27201-6									X	X
	Seal	25-27201-7									X	X
	Shield - Assy of Insulated	25-27201-8									-	-
	Shield - Time Delay Booster	25-27201-1									X	X
	Door - Access, Stage Separation	26-11886-1									X	X
	Door - Access, Booster	26-11888-1									X	X
	Door Assy - Safe & Arm	29-20567-1									X	X
	Door - Ordnance Access	(4)	29-20507-1								X	X
	Door - Ordnance (Chem-timer) Assy of	29-22311-1									X	X
	Cover - Panel Tie	(4)	29-23651-1								X	X
	Cover - Panel Tie	(4)	29-23651-2								X	X
	Plug - Access Hole	29-21663-2									X	X
	Panel - Insulation	29-25165-1									X	X
	Door - CTVI Equipment Access	25-30928-1									X	X
	Panel - Insulation	25-31081-1									X	X
	Marking Instl - Section M7	25-30134-2									X	X
	Cover - Receptacle	29-22725-1									X	X
	Cover - Receptacle	29-22725-2									X	X
	Cover - Receptacle	29-22725-3									X	X
	Bolt - 1000 Head	BACCBORM-3-8									X	X
	Bolt - 1000 Head	(33)	BACCBORM-4-11								X	X
	Bolt - 1000 Head		BACCBORM-4-9								X	X
	Bolt - 1000 Head	(6)	BACCBORM-4-5								X	X
	Bolt - 1000 Head	(7)	BACCBORM-3-1								X	X
	Bolt - 1000 Head	(4)	BACCBORM-3-3								X	X

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BOEING

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FIG. 111 NUMBER: 6701

SERIAL NUMBER: 0000130

MISSISSIPPI WEIGHTING CHART

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FINAL ASSEMBLY DRAWINGS

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WEIGHT AND BALANCE CHANGE RECORD

ASSOCIATE CONTRACTOR	BOEING	CONTRACT NO.	AFO1(694)-046	REPORT NO.	OPR-2012
COMPONENT	INTERSTAGE 1-2	LOT NO.		DATE	3/13/63
MODEL NO.	WS-133	DRAWING NO.	22-27201-11	PREPARED	R. ST. ROMAIN
SERIAL NO.	00000130	U.O. MISSILE	661	APPROVED	G. ROBERTS

ITEM	DESCRIPTION OF EQUIPMENT	WEIGHT AND BALANCE					
		WEIGHT	X AXIS	Y AXIS	Z AXIS	ARM	MOMENT
1	Body Section (As Weighed)	357.35	77.87	27.825.3	100.06	35,758.0	100.39
2							
3							
4							
5	ADD:	0					
6							
7							
8	DEDUCT:	0					
9							
10							
11	Body Section (Complete)	357.35	77.87	27.825.3	100.06	35,758.0	100.39
12							
13							
14							
15							
16							
17							
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WEIGHT AND BALANCE CHANGE RECORD

ASSOCIATE CONTRACTOR	BOEING	CONTRACT NO.	AFO4(694)-046	REPORT NO.	OPR-2014
COMPONENT	INTERSTAGE 1-2	LOT NO.		DATE	3/18/63
MODEL NO.	WS-1-33	DRAWING NO.	25-27201-11	PREPARED	H. CHRISTIANSEN
SERIAL NO.	0000131	U.O. MISSILE	664	APPROVED	G. ROBERTS

EQUIPMENT CHANGE RECORD

LINE	PART NO.	DESCRIPTION OF EQUIPMENT	WEIGHT AND BALANCE		
			WEIGHT	X AXIS ARM	Y AXIS ARM
1					
2	25-27201-11	Body Section (As Weighed)	355.80	77.85	27,698.3
3					
4					
5	ADD:		0		
6					
7					
8	DEDUCT:		0		
9					
10					
11	25-27201-11	Body Section (Complete)	355.80	77.85	27,698.3
12					
13					
14					
15					
16					
17					
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WEIGHT AND BALANCE CHANGE RECORD

ASSOCIATE CONTRACTOR	BOEING	CONTRACT NO.	AFO4(694)-046	REPORT NO.	OPR-2017
COMPONENT	INTERSTAGE 1-2	LOT NO.		DATE	3/18/63
MODEL NO.	WS-133	DRAWING NO.	25-27201-11	PREPARED	T. VOGEL
SERIAL NO.	00000132	U.O. MISSILE	668	APPROVED	G. ROBERTS

WEIGHT AND BALANCE

ENIT	DESCRIPTION OF EQUIPMENT	WEIGHT AND BALANCE					
		EQUIPMENT CHANGE RECORD		X AXIS		Y AXIS	
PART NO.	WEIGHT	ARM	MOMENT	ARM	MOMENT	ARM	MOMENT
1							
2	25-27201-11	Body Section (As Weighed)	357.90	78.07	27,942.3	99.85	35,736.5
3							
4							
5	ADD:	0					
6							
7	DEDUCT:	0					
8							
9							
10							
11	25-27201-11	Body Section (Complete)	357.90	78.07	27,942.3	99.85	35,736.5
12							
13							
14							
15							
16							
17							
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WEIGHT AND BALANCE CHANGE RECORD

ASSOCIATE CONTRACTOR	BOEING	CONTRACT NO.	AFO4(694)-046	REPORT NO.	OPR-2020
COMPONENT	TINTERSTAGE 1-2	LOT NO.		DATE	3/21/63
MODEL NO.	WS-133	DRAWING NO.	25-27201-11	PREPARED	H. CHRISTIANSEN
SERIAL NO.	00000133	U.O. MISSILE	672	APPROVED	G. ROBERTS

EQUIPMENT CHANGE RECORD

ITEM	PART NO.	DESCRIPTION OF EQUIPMENT	WEIGHT AND BALANCE		
			WEIGHT	X AXIS	Y AXIS
1	25-27201-11	Body Section (As Weighted)	360.35	77.88	28,065.6
2					99.88
3					35,992.0
4					100.51
5	ADD:		0		36,219.9
6					
7					
8	DEDUCT:		0		
9					
10					
11	25-27201-11	Body Section (Complete)	360.35	77.88	28,065.6
12					99.88
13					35,992.0
14					100.51
15					36,219.9
16					
17					
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WEIGHT AND BALANCE CHANGE RECORD

ASSOCIATE CONTRACTOR		BOEING	CONTRACT NO.	AFO4(694)-046	REPORT NO.	OPR-2013
COMPONENT	INTERSTAGE 1-2	LOT NO.	WS-133	DRAWING NO.	DATE	3/13/63
MODEL NO.	WS-133	U.O. MISSILE	0000142	U.O. MISSILE	PREPARED	R. ST. ROMAII
APPROVED	G. ROBERTS					
EQUIPMENT CHANGE RECORD						
ITEM	DESCRIPTION OF EQUIPMENT	WEIGHT	X AXIS	Y AXIS	Z AXIS	
PART NO.		ARM	ARM	ARM	ARM	ARM
1	25-27201-11 Body Section (As Weighed)	355.95	77.87	27.717.7	99.83	35.533.9
2						
3						
4						
5	ADD:	0				
6						
7						
8	DEDUCT:	0				
9						
10						
11	25-27201-11 Body Section (Complete)	355.95	77.87	27.717.7	99.83	35.533.9
12						
13						
14						
15						
16						
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WEIGHT AND BALANCE CHANGE RECORD

ASSOCIATE CONTRACTOR	BOEING	CONTRACT NO.	AFO4(694)-046	REPORT NO.	OPR-2015
COMPONENT	INTERSTAGE 1-2	LOT NO.		DATE	3/14/63
MODEL NO.	WS-133	DRAWING NO.	25-27201-11	PREPARED	T. VOGEL
SERIAL NO.	00000143	U.O.: MISSILE	665	APPROVED	G. ROBERTS

EQUIPMENT CHANGE RECORD

S/N	PART NO.	DESCRIPTION OF EQUIPMENT	WEIGHT AND BALANCE					
			WEIGHT	X AXIS ARM	X AXIS MOMENT	Y AXIS ARM	Y AXIS MOMENT	Z AXIS ARM
1								
2	25-27201-11	Body Section (As Weighed)	355.65	77.85	27.687.9	99.69	35.455.9	100.22
3								
4								
5	ADD:		0					
6								
7								
8	DEDUCT:		0					
9								
10								
11	25-27201-11	Body Section (Complete)	355.65	77.85	27.687.9	99.69	35.455.9	100.22
12								
13								
14								
15								
16								
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WEIGHT AND BALANCE CHANGE RECORD

ASSOCIATE CONTRACTOR	BOEING	CONTRACT NO.	AFCI(694)-246	REPORT NO.	OPR-2018
COMPONENT	INTERSTAGE 1-2	LOT NO.		DATE	3/18/63
MODEL NO.	WS-133	DRAWING NO.	25-27201-11	PREPARED	R. ST. ROMAIN
SERIAL NO.	0000144	U.O. MISSILE	670	APPROVED	G. ROBERTS

EQUIPMENT CHANGE RECORD

ENT'L	PART NO.	DESCRIPTION OF EQUIPMENT	WEIGHT AND BALANCE					
			WEIGHT		X AXIS		Y AXIS	
			ARM	moment	ARM	moment	ARM	moment
1	25-27201-11	Body Section (As Weighed)	355.35	77.91	27,685.2	99.93	35,509.9	100.22
2								
3								
4								
5	ADD:		0					
6								
7								
8	DEDUCT:		0					
9								
10								
11	25-27201-11	Body Section (Complete)	355.35	77.91	27,685.2	99.93	35,509.9	100.22
12								
13								
14								
15								
16								
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WEIGHT AND BALANCE CHANGE RECORD

ASSOCIATE CONTRACTOR	BOEING	CONTRACT NO.	AFO4(694)-046	REPORT NO.	OPR-2019
COMPONENT	INTERSTAGE 1-2	LOT NO.		DATE	3/21/63
MODEL NO.	WS-133	DRAWING NO.	25-27201-11	PREPARED	H. CHRISTIANSEN
SERIAL NO.	0000145	U.O. MISSILE	671	APPROVED	G. ROBERTS

EQUIPMENT CHANGE RECORD

ITEM	PART NO.	DESCRIPTION OF EQUIPMENT	WEIGHT AND BALANCE						
			WEIGHT	X AXIS ARM	X AXIS MOMENT	Y AXIS ARM	Y AXIS MOMENT	Z AXIS ARM	Z AXIS MOMENT
1									
2	25-27201-11	Body Section (As Weighed)	355.90	71.91	21,748.2	99.90	35,554.5	100.19	35,656.4
3									
4									
5		ADD:	0						
6									
7									
8		DEDUCT:	0						
9									
10									
11	25-27201-11	Body Section (Complete)	355.90	71.91	21,748.2	99.90	35,554.5	100.19	35,656.4
12									
13									
14									
15									
16									
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WEIGHT AND BALANCE CHANGE RECORD

ASSOCIATE CONTRACTOR	BOEING	CONTRACT NO.	AF04(624)-046	REPORT NO.	OPR-2021
COMPONENT	INTERSTAGE 1-2	LOT NO.		DATE	3/25/63
MODEL NO.	WS-133	DRAWING NO.	25-27201-11	PREPARED	H. CHRISTIANSEN
SERIAL NO.	00000146	U.O. MISSILE	6T3	APPROVED	G. ROBERTS

EQUIPMENT CHANGE RECORD		WEIGHT AND BALANCE								
ENT	PART NO.	DESCRIPTION OF EQUIPMENT	WEIGHT		X AXIS		Y AXIS		Z AXIS	
			ARM	MOVENT	ARM	MOVENT	ARM	MOVENT	ARM	MOVENT
1										
2	25-27201-11	Body Section (As Weighed)	356.10	77.92	27.749.0	99.82	35.544.4	100.37	35.742.4	
3										
4										
5		ADD:	0							
6										
7										
8		DEDUCT:	0							
9										
10										
11	25-27201-11	Body Section (Complete)	356.10	77.92	27.749.0	99.82	35.544.4	100.37	35.742.4	
12										
13										
14										
15										
16										
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WEIGHT AND BALANCE CHANGE RECORD

ASSOCIATE CONTRACTOR	BOEING	CONTRACT NO.	AFO4 (694)-046	REPORT NO.	OPR-2023
COMPONENT	INTERSTAGE 1-2	LOT NO.		DATE	3/25/63
MODEL NO.	WS-133	DRAWING NO.	25-27201-11	PREPARED	H. CHRISTIANSEN
SERIAL NO.	0000147	U.O. MISSILE	6T1	APPROVED	G. ROBERTS

EQUIPMENT CHANGE RECORD

PART NO.	DESCRIPTION OF EQUIPMENT	WEIGHT			X AXIS			Y AXIS			Z AXIS		
		WEIGHT	ARM	MOIMENT	ARM	MOIMENT	ARM	MOIMENT	ARM	MOIMENT	ARM	MOIMENT	ARM
1													
2	25-27201-11 Body Section (As Weighed)	3555.80	77.85	27,698.3	99.84	35,523.5	100.20	35,652.4					
3													
4													
5	ADD:	0											
6													
7													
8	DEDUCT:	0											
9													
10													
11	25-27201-11 Body Section (Complete)	3555.80	77.85	27,698.3	99.84	35,523.5	100.20	35,652.4					
12													
13													
14													
15													
16													
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WEIGHT AND BALANCE CHANGE RECORD

ASSOCIATE CONTRACTOR		CONTRACT NO.	AF04(694)-046	REPORT NO.	OPR-2024
COMPONENT	INTERSTAGE 1-2	LOT NO.		DATE	3/27/63
MODEL NO.	IS-123	DRAWING NO.	25-27201-11	PREPARED	RS/WR
SERIAL NO.	00000148	U.O. MISSILE	678	APPROVED	GVR
ITEM	EQUIPMENT CHANGE RECORD	WEIGHT	X AXIS ARM	Y AXIS ARM	Z AXIS ARM
PART NO.	DESCRIPTION OF EQUIPMENT	WEIGHT	ARM	ARM	ARM
1					
2	Body Section (As Weighed)	356.80	77.92	27,801.4	99.98
3					
4					
5	ADD:	0			
6					
7					
8	DEDUCT:	0			
9					
10					
11	Body Section (Complete)	356.80	77.92	27,801.4	99.98
12					
13					
14					
15					
16					
17					
18					
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WEIGHT AND BALANCE CHANGE RECORD

ASSOCIATE CONTRACTOR			CONTRACT NO.	AP04(694)-046	REPORT NO.	OPR-2026
COMPONENT			LOT NO.	25-27201-11	DATE	3/26/63
MODEL NO.	DRAWING NO.	U.O. MISSILE	682	PREPARED	H. CHRISTIANSEN	
SERIAL NO.				APPROVED	G. ROBERTS	
EQUIPMENT CHANGE RECORD						
LINE	PART NO.	DESCRIPTION OF EQUIPMENT	WEIGHT	X AXIS ARM	X AXIS MOMENT	Y AXIS ARM
1						
2	25-27201-11	Body Section (As Weighed)	355.05	77.97	27,682.5	100.10
3						
4						
5	ADD:		0			
6						
7	REDUCT:		0			
8						
9						
10						
11	25-27201-11	Body Section (Complete)	355.05	77.97	27,682.5	100.10
12						
13						
14						
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WEIGHT AND BALANCE CHANGE RECORD

ASSOCIATE CONTRACTOR	BOEING	CONTRACT NO.	AFA4(694)-046	REPORT NO.	OPR-2021
COMPONENT	INTERSTAGE 1-2	LOT NO.		DATE	3/28/63
MODEL NO.	WS-133	DRAWING NO.	25-27201-11	PREPARED	R. ST. ROMAIN
SERIAL NO.	00000150	U.O: MISSILE	681	APPROVED	G. ROBERTS

EQUIPMENT CHANGE RECORD

ENT	PART NO.	DESCRIPTION OF EQUIPMENT	WEIGHT AND BALANCE				
			WEIGHT	X AXIS	ARM	ARM	ARM
			WEIGHT	ARM	ARM	ARM	ARM
1	25-27201-11	Body Section (As Weighed)	355.90	77.99	27.757.2	100.12	35.632.5
2							
3							
4							
5		ADD:	0				
6							
7							
8		DEDUCT:	0				
9							
10							
11	25-27201-11	Body Section (Complete)	355.90	77.99	27.757.2	100.12	35.632.5
12							
13							
14							
15							
16							
17							
18							
19							
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WEIGHT AND BALANCE CHANGE RECORD			WEIGHT AND BALANCE		
			X AXIS	Y AXIS	Z AXIS
	PART NO.	DESCRIPTION OF EQUIPMENT	WEIGHT	ARM	MOMENT
1					
2	25-27201-11	Body Section (As Weighed)	358.25	77.89	27,902.5
3					
4					
5		ADD:	0		
6					
7		DEDUCT:	0		
8					
9					
10					
11	25-27201-11	Body Section (Complete)	358.25	77.89	27,902.5
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
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WEIGHT AND BALANCE CHANGE RECORD

ASSOCIATE CONTRACTOR	BOEING	CONTRACT NO.	AF04(694)-046	REPORT NO.	OPR-2029
COMPONENT	<u>INTERSTAGE 1-2</u>	LOT NO.		DATE	4/1/63
MODEL NO.	WS-133	DRAWING NO.	25-27201-11	PREPARED	R. ST. ROMAIN
SERIAL NO.	0000152	U.O. MISSILE	689	APPROVED	G. ROBERTS

EQUIPMENT CHANGE RECORD

ENT	PART NO.	DESCRIPTION OF EQUIPMENT	WEIGHT AND BALANCE		
			WEIGHT	X AXIS ARM	Y AXIS ARM
1					
2	25-27201-11	Body Section (As Weighed)	357.15	77.89	27,818.4
3					
4					
5	ADD:		0		
6					
7					
8	DEDUCT:		0		
9					
10					
11	25-27201-11	Body Section (Complete)	357.15	77.89	27,818.4
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
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WEIGHT AND BALANCE CHANGE RECORD		WEIGHT AND BALANCE					
		CONTRACT NO.	AF04(694)-046	REPORT NO.	OPR-2030		
		LOT NO.	DATE	4/1/63			
		DRAWING NO.	PREPARED	H. CHRISTIANSEN			
		U.O. MISSILE	APPROVED	G. ROBERTS			
		691					
EQUIPMENT CHANGE RECORD		WEIGHT AND BALANCE					
UNIT	PART NO.	DESCRIPTION OF EQUIPMENT	WEIGHT	X AXIS	Y AXIS	Z AXIS	
1			ARM	ARM	ARM	ARM	MOMENT
2	25-27201-11	Body Section (As Weighed)	356.25	78.11	27.825.3	99.93	35,599.9
3							100.17
4							35,686.9
5		ADD:	0				
6							
7		DEDUCT:	0				
8							
9							
10							
11	25-27201-11	Body Section (Complete)	356.25	78.11	27.825.3	99.93	35,599.9
12							100.17
13							35,686.9
14							
15							
16							
17							
18							
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WEIGHT AND BALANCE CHANGE RECORD

ASSOCIATE CONTRACTOR	BOEING	CONTRACT NO.	AFO4(694)-046	REPORT NO.	OPR-2032
COMPONENT	INTERSTAGE 1-2	LOT NO.		DATE	4/16/63
MODEL NO.	WS-133	DRAWING NO.	25-27201-11	PREPARED	JIM HILL
SERIAL NO.	0000154	U.O. MISSILE	694	APPROVED	G. ROBERTS

EQUIPMENT CHANGE RECORD		WEIGHT AND BALANCE					
LINE	PART NO.	DESCRIPTION OF EQUIPMENT	WEIGHT	X AXIS	Y AXIS	Z AXIS	
			ARM	ARM	ARM	ARM	MOMENT
1	25-27201-11	Body Section (As Weighed)	357.15	77.90	27,821.5	99.85	35,660.0
2							100.23
3							35,721.2
4							
5		ADD:	0				
6							
7							
8		DEDUCT:	0				
9							
10							
11	25-27201-11	Body Section (Complete)	357.15	77.90	27,821.5	99.85	35,660.0
12							100.23
13							35,721.2
14							
15							
16							
17							
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WEIGHT AND BALANCE CHANGE RECORD

ASSOCIATE CONTRACTOR BOEING
 COMPONENT INTERSTAGE 1-2
 MODEL NO. WS-133
 SERIAL NO. 0000155

CONTRACT NO. AF 04(694)-046
 LOT NO. 696
 DRAWING NO. 25-27201-11
 U.O. MISSILE

REPORT NO. OPR-2033
 DATE 4-8-63
 PREPARED H. CHRISTJANSEN
 APPROVED G. ROBERTS

EQUIPMENT CHANGE RECORD

PART NO.	DESCRIPTION OF EQUIPMENT	WEIGHT AND BALANCE					
		WEIGHT	X AXIS ARM	X AXIS MOMENT	Y AXIS ARM	Y AXIS MOMENT	Z AXIS ARM
1							
2	25-27201-11 Body Section (As Weighed)	358.45	77.94	27,936.3	99.96	35,828.9	100.15
3							
4							
5	ADD:	0					
6							
7							
8	DEDUCT:	0					
9							
10							
11	25-27201-11 Body Section (Complete)	358.45	77.94	27,936.3	99.96	35,828.9	100.15
12							
13							
14							
15							
16							
17							
18							
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WEIGHT AND BALANCE CHANGE RECORD					
ASSOCIATE CONTRACTOR COMPONENT MODEL NO. SIGNAL NO.	CONTRACT NO. LOT NO. DRAWING NO. U.O. MISSILE	AF 04(6ch4)-046 1-2 WS-133 0000155	REPORT NO. DATE PREPARED APPROVED	OPR-2035 4-8-63 H. CHRISTIANSEN G. ROBERTS	
ENT	EQUIPMENT CHANGE RECORD	WEIGHT AND BALANCE			
		WEIGHT	X AXIS ARM	Y AXIS ARM	Z AXIS ARM
	PART NO.	DESCRIPTION OF EQUIPMENT	WEIGHT	X AXIS ARM	Y AXIS ARM
1	25-27201-11	Body Section (As Weighed)	357.75	78.00	27.905.2
2					99.95
3					35.755.9
4					
5	ADD:				
6					
7	DEDUCT:				
8					
9					
10	25-27201-11	Body Section (Complete)	357.75	78.00	27.905.2
11					99.95
12					35.755.9
13					
14					
15					
16					
17					
18					
19					
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WEIGHT AND BALANCE CHANGE RECORD		WEIGHT AND BALANCE		WEIGHT AND BALANCE	
		CONTRACT NO.	AT Q4(694)-046	REPORT NO.	OPR-2036
		LOT NO.		DATE	4-8-63
		DRAWING NO.	25-27201-11	PREPARED	H. CHRISTIANSEN
		U.O. MISSILE	701	APPROVED	G. ROBERTS
EQUIPMENT CHANGE RECORD		WEIGHT AND BALANCE		WEIGHT AND BALANCE	
		WEIGHT	X AXIS	WEIGHT	Z AXIS
		ARM	ARM	ARM	ARM
		moment	moment	moment	moment
1					
2	25-27201-11	Body Section (As Weighed)	357.50	77.79	27.808.7
3					
4					
5	ADD:	0			
6					
7					
8	DEDUCT:	0			
9					
10					
11	25-27201-11	Body Section (Complete)	357.50	77.79	27.808.7
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
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WEIGHT AND BALANCE CHANGE RECORD

ASSOCIATE CONTRACTOR BOEING
INTERSTAGE 1-2
COMPONENT MS-133
MODEL NO. 0000158
SERIAL NO.

CONTRACT NO. AF 04(694)-046
LOT NO.
DRAWING NO. 25-27201-11
U.O. MISSILE 703

REPORT NO. OPR-2037DATE 4-10-63PREPARED H. CHRISTIANSENAPPROVED G. ROBERTS

EQUIPMENT CHANGE RECORD

S/N/T	PART NO.	DESCRIPTION OF EQUIPMENT	WEIGHT AND BALANCE		
			WEIGHT	X AXIS ARM	Y AXIS ARM
1					
2	25-27201-11	Body Section (As Weighed)	360.95	77.87	28,107.0
3					
4					
5	ADD:		0		
6					
7					
8	DEDUCT:		0		
9					
10					
11	25-27201-11	Body Section (Complete)	360.95	77.87	28,107.0
12					
13					
14					
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BOEING

NO. D2-13944-661

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WEIGHT AND BALANCE CHANGE RECORD

ASSOCIATE CONTRACTOR	BOEING	CONTRACT NO.	AF 04(694) 046	REPORT NO.	OPR-2038
COMPONENT	INTERSTAGE 1-2	LOT NO.		DATE	4-10-63
MODEL NO.	WS-133	DRAWING NO.	25-27201-11	PREPARED	H. CHRISTIANSEN
SERIAL NO.	00000159	U.O. MISSILE	705	APPROVED	G. ROBERTS

EQUIPMENT CHANGE RECORD

SEQ#	PART NO.	DESCRIPTION OF EQUIPMENT	WEIGHT AND BALANCE					
			WEIGHT	X AXIS ARM	X AXIS MOMENT	Y AXIS ARM	Y AXIS MOMENT	Z AXIS ARM
1								
2	25-27201-11	Body Section (As Weighed)	357.50	77.84	27,826.7	100.08	35,777.5	100.36
3								
4								
5		ADD:	0					
6								
7								
8		DEDUCT:	0					
9								
10								
11	25-27201-11	Body Section (Complete)	357.50	77.84	27,826.7	100.08	35,777.5	100.36
12								
13								
14								
15								
16								
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BOEING

NO.D2-13944-661

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WEIGHT AND BALANCE CHANGE RECORD

ASSOCIATE CONTRACTOR BOEING CONTRACT NO. AF04(694)-046
 COMPONENT INTERSTAGE 1-2 LOT NO. 3/6/63
 MODEL NO. WS-133 DRAWING NO. 25-27201-11
 SERIAL NO. 0000169 U.O. MISSILE

REPORT NO. OPR-2010
 DATE 3/6/63
 PREPARED T. VOGEL
 APPROVED G. ROBERTS

EQUIPMENT CHANGE RECORD

ITEM	PART NO.	DESCRIPTION OF EQUIPMENT	WEIGHT AND BALANCE		
			WEIGHT	X AXIS ARM	Y AXIS ARM
1	25-27201-11	Body Section (As Weighed)	353.10	77.92	27.511.8
2					
3					
4					
5		ADD:	0		
6					
7					
8		DEDUCT:	0		
9					
10					
11	25-27201-11	Body Section (Complete)	353.10	77.92	27.511.8
12					
13					
14					
15					
16					
17					
18					
19					
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BOEING

NO. D2-13944-661

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WEIGHT AND BALANCE CHANGE RECORD

ASSOCIATE CONTRACTOR BOEING
 INTERSTAGE 1-2
 COMPONENT WS-133
 MODEL NO. 00000170
 SERIAL NO.

CONTRACT NO. AF04(694)-046
 LOT NO. 25-27201-11
 DRAWING NO. U.O. MISSILE 675

REPORT NO. OPR-2022
 DATE 3/25/63
 PREPARED H. CHRISTIANSEN
 APPROVED G. ROBERTS

EQUIPMENT CHANGE RECORD

ENT	PART NO.	DESCRIPTION OF EQUIPMENT	WEIGHT AND BALANCE					
			WEIGHT	X AXIS ARM	X AXIS MOMENT	Y AXIS ARM	Y AXIS MOMENT	Z AXIS ARM
1	25-27201-11	Body Section (As Weighed)	352.65	77.92	27,477.70	100.09	35,296.9	100.24
2								
3								
4								
5		ADD:	0					
6								
7								
8		DEDUCT:	0					
9								
10								
11	25-27201-11	Body Section (Complete)	352.65	77.92	27,477.0	100.09	35,296.9	100.24
12								
13								
14								
15								
16								
17								
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BOEING NO. D2-13944-661
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WEIGHT AND BALANCE CHANGE RECORD

ASSOCIATE CONTRACTOR	BOEING	CONTRACT NO.	AFO4(694)-046	REPORT NO.	OPR-2031
COMPONENT	INTERSTAGE 1-2	LOT NO.		DATE	4/2/63
MODEL NO.	WS-133	DRAWING NO.	25-27201-11	PREPARED	R. ST. ROMAIN
SERIAL NO.	0000171		U.O. MISSILE 692	APPROVED	G. ROBERTS

EQUIPMENT CHANGE RECORD

ITEM	PART NO.	DESCRIPTION OF EQUIPMENT	WEIGHT AND BALANCE				
			WEIGHT	X AXIS	ARM	Y AXIS	ARM
			moment	moment	moment	moment	moment
1							
2	25-27201-11	Body Section (As Weighed)	356.90	77.73	27,740.3	100.04	35,705.5
3							
4							
5	ADD:		0				
6							
7							
8	DEDUCT:		0				
9							
10							
11	25-27201-11	Body Section (Complete)	356.90	77.73	27,740.3	100.04	35,705.5
12							
13							
14							
15							
16							
17							
18							
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BOEING

NO. D2-13944-661

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WEIGHT AND BALANCE CHANGE RECORD

ASSOCIATE CONTRACTOR	BOEING	CONTRACT NO.	AIRLINE (94) 1-246	REPORT NO.	OPR-A-016
COMPONENT	INTERSECTING 1-2	LOT NO.		DATE	2/15/63
MODEL NO.	721-133	DRAWING NO.	25-27201-11	PREPARED	E. VOGEL
SERIAL NO.	0030176	U.O. MISSILE	236	APPROVED	G. ROBERTS

EQUIPMENT CHANGE RECORD

ENT	PART NO.	DESCRIPTION OF EQUIPMENT	WEIGHT AND BALANCE						
			WEIGHT	X AXIS	Y AXIS	Z AXIS	ARM	MOMENT	ARM
1									MOMENT
2	25-27201-11	Body Section (As Helical)	355.55	77.96	35,615.0	22.89	35,615.0	100.23	35,778.9
3									
4									
5	AIR:		0						
6									
7									
8	REINFOR:		0						
9									
10									
11	25-27201-11	Body Section (Complete)	355.55	77.96	35,615.0	22.89	35,615.0	100.23	35,778.9
12									
13									
14									
15									
16									
17									
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BOEING

NO. 02-13044-651

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WEIGHT AND BALANCE CHANGE RECORD

ASSOCIATE CONTRACTOR BOEING CONTRACT NO. AFO4(694)-046
 COMPONENT INTERSTAGE 1-2 LOT NO.
 MODEL NO. WS-133 DRAWING NO. 25-27201-11
 SERIAL NO. Q000179 U.O. MISSILE 680

REPORT NO. OPR-2025
 DATE 3/25/63
 PREPARED H. CHRISTIANSEN
 APPROVED G. ROBERTS

EQUIPMENT CHANGE RECORD

S/N	PART NO.	DESCRIPTION OF EQUIPMENT	WEIGHT AND BALANCE					
			WEIGHT	X AXIS ARM	X AXIS MOMENT	Y AXIS ARM	Y AXIS MOMENT	Z AXIS ARM
1								
2	25-27201-11	Body Section (As Weighed)	353.35	71.99	27,557.0	100.09	35,367.0	100.46
3								
4								
5	ADD:		0					
6								
7								
8	DEDUCT:		0					
9								
10								
11	25-27201-11	Body Section (Complete)	353.35	71.99	27,557.0	100.09	35,367.0	100.46
12								
13								
14								
15								
16								
17								
18								
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BOEING

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WEIGHT AND BALANCE CHANGE RECORD

ASSOCIATE CONTRACTOR BOEING
 COMPONENT INTERSTAGE 1-2
 MODEL NO. 4S-133
 SERIAL NO. 0000180

CONTRACT NO. AF 04(694)-046
 LOT NO. 25-22201-11
 DRAWING NO. U.O. MISSILE 698

REPORT NO. OPR-2034
 DATE 4-3-63
 PREPARED H. CHRISTIANSEN
 APPROVED G. ROBERTS

EQUIPMENT CHANGE RECORD

ENT	DESCRIPTION OF EQUIPMENT	WEIGHT AND BALANCE					
		WEIGHT	X AXIS ARM	X AXIS MOMENT	Y AXIS ARM	Y AXIS MOMENT	Z AXIS ARM
1							
2	25-22201-11 Body Section (As Weighed)	358.30	77.92	27,920.0	99.80	35,758.4	100.30
3							
4							
5	ADD:	0					
6							
7							
8	DEDUCT:	0					
9							
10							
11	25-22201-11 Body Section (Complete)	358.30	77.92	27,920.0	99.80	35,758.4	100.30
12							
13							
14							
15							
16							
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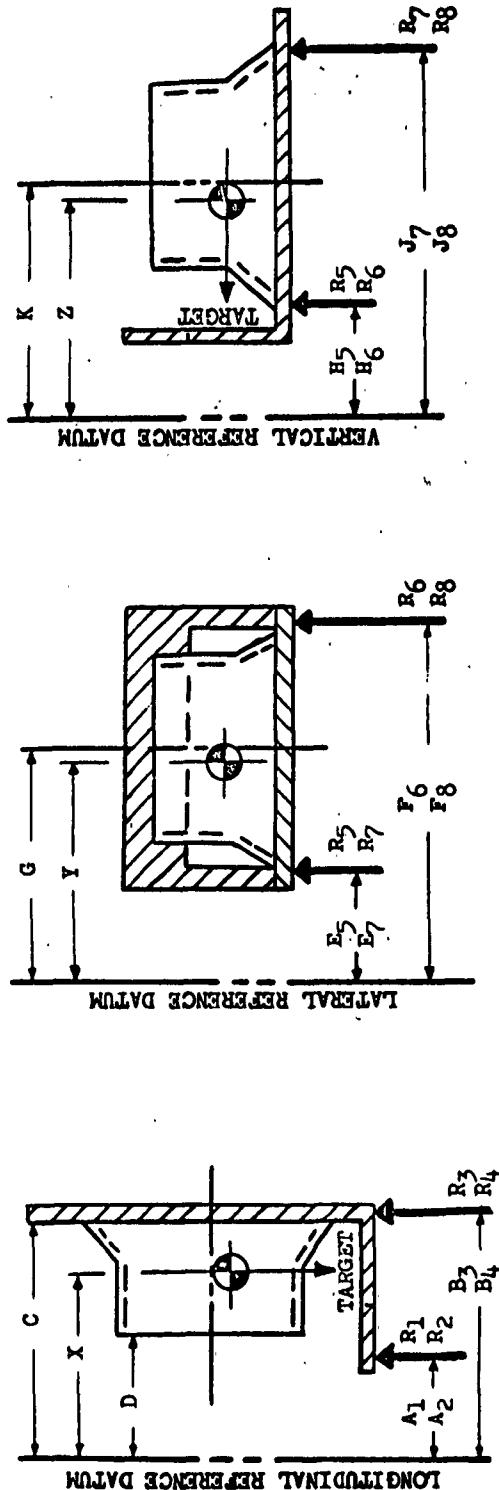
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SERIAL NO. 0000130
U/O MISSILE 661
MISSILE MODEL WS-133
CONFIGURATION TAH

6.3.1 ACTUAL WEIGHT RECORD - SKIRT

DRAWING NO.	25-27207-3	CHECK LIST NO.	9
DCN	E	REPORTED BY	RS-TV
ADCN	25	CHECKED BY	GVR



REACTION	GR. WT.	TARE	CORR.	NET WT.	REACTION	GR. WT.	TARE	CORR.	NET WT.
R1	190.95	95.55		95.40	R5	205.40	134.00		71.40
R2	80.75	9.30		71.45	R6	263.80	170.15		93.65
R3	226.75	152.90		73.85	R7	211.30	116.75		94.55
R4	335.45	241.30		94.15	R8	153.40	78.15		75.25
TOTAL	833.90	499.05		334.85	TOTAL	833.90	499.05		334.85

WEIGHING DATA

DIMENSIONAL DATA			
DIM.	INCHES	DIM.	INCHES
A1	51.175	E5	60.997
A2	51.172	E7	61.008
B3	87.173	F6	139.001
B4	87.173	F8	139.009
C	G	K	
D			

LONGITUDINAL C.G.

REACTION	NET WT.	ARM	MOMENT	REACTION	NET WT.	ARM	MOMENT	REACTION	NET WT.	ARM	MOMENT
R1	95.40	51.175		R5	71.40	60.997		R5	71.40	61.002	
R2	71.45	51.172		R6	93.65	139.001		R6	93.65	61.005	
R3	73.85	87.173		R7	94.55	61.008		R7	94.55	139.003	
R4	94.15	87.173		R8	75.25	139.009		R8	75.25	139.001	
AS WGD	334.85	69.24	23,183.4	AS WGD	334.85	100.35	33,601.4	AS WGD	334.85	100.56	33,671.4

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FIG. 1A. NUMBER: 6901

SERIAL NUMBER: 0000130

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BOEING

NO. D2-13944-661

WEIGHT AND BALANCE CHANGE RECORD					
ASSOCIATE CONTRACTOR		CONTRACT NO.	AF04(694)-046	REPORT NO.	OPR-2012
COMPONENT	SKIRT	LOT NO.		DATE	3/5/63
MODEL NO.	MS-133	DRAWING NO.	25-27207-3	PREPARED	T. VOGEL
SERIAL NO.	00000130	U.O. MISSILE	661	APPROVED	G. ROBERTS
EQUIPMENT CHANGE RECORD					
PART NO.		DESCRIPTION OF EQUIPMENT		WEIGHT AND BALANCE	
				X AXIS	Z AXIS
		WEIGHT	ARM	ARM	ARM
			MOMENT	MOMENT	MOMENT
1					
2	25-27207-3	Body Section (As Weighed)	334.85	69.24	23,183.4
3					
4					
5	ADD:	0			
6					
7	DEDUCT:	0			
8					
9					
10	25-27207-3	Body Section (Complete)	334.85	69.24	23,183.4
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
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BOEING

NO. D2-13944-661

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WEIGHT AND BALANCE CHANGE RECORD

ASSOCIATE CONTRACTOR	BOEING	CONTRACT NO.	AFO4(694)-046	REPORT NO.	OPR-2014
COMPONENT	SKIRT	LOT NO.		DATE	3/7/63
MODEL NO.	WS-133	DRAWING NO.	25-27207-3	PREPARED	T. VOGEL
SERIAL NO.	00000131	U.O. MISSILE	664	APPROVED	G. ROBERTS

EQUIPMENT CHANGE RECORD

ENT	PART NO.	DESCRIPTION OF EQUIPMENT	WEIGHT AND BALANCE		
			WEIGHT	X AXIS ARM	Y AXIS ARM
1					
2	25-27207-3	Body Section (As Weighed)	337.75	69.22	23.318.5
3					
4					
5	ADD:		0		
6					
7					
8	DEDUCT:		0		
9					
10					
11	25-27207-3	Body Section (Complete)	337.75	69.22	23.318.5
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
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BOEING

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WEIGHT AND BALANCE CHANGE RECORD

ASSOCIATE CONTRACTOR BOEING
 COMPONENT SKIRT
 MODEL NO. WS-133
 SERIAL NO. 0000132

CONTRACT NO. AFO4(624)-046
 LOT NO.
 DRAWING NO. 25-27207-3
 U.O. MISSILE 688

REPORT NO. OPR-2017
 DATE 3/11/63
 PREPARED H. CHRISTENSEN
 APPROVED G. ROBERTS

EQUIPMENT CHANGE RECORD

UNIT	PART NO.	DESCRIPTION OF EQUIPMENT	WEIGHT AND BALANCE		
			WEIGHT	X AXIS ARM	Y AXIS ARM
			WEIGHT	MOMENT	MOMENT
1					
2	25-27207-3	Body Section (As Weighed)	336.90	69.24	23,327.6
3					
4					
5	ADD:		0		
6					
7					
8	Deduct:		0		
9					
10					
11	25-27207-3	Body Section (Complete)	336.90	69.24	23,327.6
12					
13					
14					
15					
16					
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BOEING

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WEIGHT AND BALANCE CHANGE RECORD		WEIGHT AND BALANCE							
		WEIGHT	X AXIS ARM	Y AXIS ARM	Z AXIS ARM	MOMENT	MOMENT	MOMENT	
ASSOCIATE CONTRACTOR	BOEING	CONTRACT NO.	AFO4(694)-046						
COMPONENT	SKIRT	LOT NO.							
	WS-133	DRAWING NO.	25-27207-3						
MODEL NO.		U.O. MISSILE	672						
SERIAL NO.	0000133								
EQUIPMENT CHANGE RECORD		WEIGHT AND BALANCE							
PART NO.	DESCRIPTION OF EQUIPMENT	WEIGHT	X AXIS ARM	Y AXIS ARM	Z AXIS ARM	MOMENT	MOMENT	MOMENT	
1									
2	25-27207-3 Body Section (As Weighed)	336.20	69.11	23,254.2	100.43	33,765.5	100.71	33,858.6	
3									
4									
5	ADD:	0							
6									
7									
8	DEDUCE:	0							
9									
10									
11	25-27207-3 Body Section (Complete)	336.20	69.11	23,254.2	100.43	33,765.5	100.71	33,858.6	
12									
13									
14									
15									
16									
17									
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BOEING

NO D2-13944-661

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WEIGHT AND BALANCE CHANGE RECORD

ASSOCIATE CONTRACTOR	BOEING	CONTRACT NO.	AF04(694)-046
COMPONENT	SICFT	LOT NO.	3/6/63
MODEL NO.	VS-133	DRAWING NO.	25-27207-3
SERIAL NO.	00000142	U.O. MISSILE	663

REPORT NO.	OPR-2013
DATE	3/6/63
PREPARED	T. VOGEL
APPROVED	G. ROBERTS

EQUIPMENT CHANGE RECORD

UNIT	PART NO.	DESCRIPTION OF EQUIPMENT	WEIGHT AND BALANCE					
			WEIGHT	X AXIS ARM	X AXIS MOMENT	Y AXIS ARM	Y AXIS MOMENT	Z AXIS ARM
1	25-27207-3	Body Section (As Weighed)	339.55	69.10	23,461.7	100.43	34,102.4	100.41
2								
3								
4								
5	ADD:		0					
6								
7								
8	DEDUCT:		0					
9								
10								
11	25-27207-3	Body Section (Complete)	339.55	69.10	23,461.7	100.43	34,102.4	100.41
12								
13								
14								
15								
16								
17								
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BOEING

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WEIGHT AND BALANCE CHANGE RECORD		WEIGHT AND BALANCE		WEIGHT AND BALANCE		WEIGHT AND BALANCE	
		X AXIS		Y AXIS		Z AXIS	
		WEIGHT	ARM	WEIGHT	ARM	WEIGHT	ARM
PART NO.	DESCRIPTION OF EQUIPMENT	WEIGHT	ARM	WEIGHT	ARM	WEIGHT	ARM
1							
2	25-27207-3 Body Section (As Weighed)	337.90	69.04	23,328.6	100.53	33,970.6	100.45
3							
4							
5	ADD:	0					
6							
7							
8	DEDUCT:	0					
9							
10							
11	25-27207-3 Body Section (Complete)	337.90	69.04	23,328.6	100.53	33,970.6	100.45
12							
13							
14							
15							
16							
17							
18							
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BOEING

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WEIGHT AND BALANCE CHANGE RECORD

ASSOCIATE CONTRACTOR	BOEING	CONTRACT NO.	AFO4(694)-046	REPORT NO.	OPR-2018
COMPONENT	SKIRT	LOT NO.		DATE	3/12/63
MODEL NO.	WS-133	DRAWING NO.	25-27207-3	PREPARED	H. CHRISTIANSEN
SERIAL NO.	00000144	U.O. MISSILE	670	APPROVED	G. ROBERTS

EQUIPMENT CHANGE RECORD

ENT.	PART NO.	DESCRIPTION OF EQUIPMENT	WEIGHT AND BALANCE					
			WEIGHT	X AXIS ARM	X AXIS MOMENT	Y AXIS ARM	Y AXIS MOMENT	Z AXIS ARM
1								
2	25-27207-3	Body Section (As Weighed)	340.05	69.00	23,462.1	100.39	34,137.0	100.51
3								
4								
5	ADD:		0					
6								
7								
8	DEDUCT:		0					
9								
10								
11	25-27207-3	Body Section (Complete)	340.05	69.00	23,462.1	100.39	34,137.0	100.51
12								
13								
14								
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BOEING

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WEIGHT AND BALANCE CHANGE RECORD

ASSOCIATE CONTRACTOR	BOEING	CONTRACT NO.	AFO4(694)-046	REPORT NO.	OPR-2019
COMPONENT	SKIRT	LOT NO.		DATE	3/13/63
MODEL NO.	WS-133	DRAWING NO.	25-27207-3	PREPARED	T. VOGEL
SERIAL NO.	00000145	U.O. MISSILE	671	APPROVED	G. ROBERTS

EQUIPMENT CHANGE RECORD

ENT	PART NO.	DESCRIPTION OF EQUIPMENT	WEIGHT AND BALANCE							
			WEIGHT	X AXIS	Y AXIS	Z AXIS	ARM	MOMENT	ARM	MOMENT
1										
2	25-27207-3	Body Section (As Weighed)	338.35	69.25	23,430.9		100.44	33,982.6	100.38	33,982.8
3										
4										
5	ADD:		0							
6										
7	DEDUCT:		0							
8										
9										
10										
11	25-27207-3	Body Section (Completed)	338.35	69.25	23,430.9		100.44	33,982.6	100.38	33,982.8
12										
13										
14										
15										
16										
17										
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BOEING

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WEIGHT AND BALANCE CHANGE RECORD

ASSOCIATE CONTRACTOR	BOEING	CONTRACT NO.	AF04(694)-046	REPORT NO.	OPR-2021
COMPONENT	SKIRT	LOT NO.		DATE	4/1/63
MODEL NO.	WS-133	DRAWING NO.	25-27207-3	PREPARED	H. CHRISTIANSEN
SERIAL NO.	0000146	U.O. MISSILE	673	APPROVED	G. ROBERTS

EQUIPMENT CHANGE RECORD

ENT#	DESCRIPTION OF EQUIPMENT	WEIGHT AND BALANCE					
		WEIGHT	X AXIS ARM	X AXIS MOMENT	Y AXIS ARM	Y AXIS MOMENT	Z AXIS ARM
1							
2	25-27207-3 Body Section (As Weighed)	338.10	69.21	23,400.1	100.27	33,901.0	100.38
3							
4							
5	ADD:	0					
6							
7							
8	DEDUCT:	0					
9							
10							
11	25-27207-3 Body Section (Complete)	338.10	69.21	23,400.1	100.27	33,901.0	100.38
12							
13							
14							
15							
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WEIGHT AND BALANCE CHANGE RECORD

ASSOCIATE CONTRACTOR	BOEING	CONTRACT NO.	AFO4(694)-046	REPORT NO.	OPR-2023
COMPONENT	SICKLE	LOT NO.		DATE	3/18/63
MODEL NO.	WS-133	DRAWING NO.	25-27207-3	PREPARED	R. ST. ROMAIN
SERIAL NO.	00000147	U.O. MISSILE	677	APPROVED	G. ROBERTS

EQUIPMENT CHANGE RECORD

ENT	PART NO.	DESCRIPTION OF EQUIPMENT	WEIGHT AND BALANCE					
			WEIGHT	X AXIS ARM	X AXIS MOMENT	Y AXIS ARM	Y AXIS MOMENT	Z AXIS ARM
1								
2	25-27207-3	Body Section (As Weighed)	338.15	69.13	23,375.6	100.41	33,954.7	100.57
3								
4								
5	ADD:		0					
6								
7								
8	DEDUCT:		0					
9								
10								
11	25-27207-3	Body Section (Complete)	338.15	69.13	23,375.6	100.41	33,954.7	100.57
12								
13								
14								
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WEIGHT AND BALANCE CHANGE RECORD

ASSOCIATE CONTRACTOR	BOEING	CONTRACT NO.	AFO4(694)-046	REPORT NO.	OPR-2024
COMPONENT	SKIRT	LOT NO.		DATE	3/19/63
MODEL NO.	WS-133	DRAWING NO.	25-27207-3	PREPARED	T. WEGEL
SERIAL NO.	0000148	U.O. MISSILE	618	APPROVED	G. ROBERTS

EQUIPMENT CHANGE RECORD

S/N	PART NO.	DESCRIPTION OF EQUIPMENT	WEIGHT AND BALANCE							
			WEIGHT	X AXIS ARM	Y AXIS ARM	Z AXIS ARM	WEIGHT	X AXIS ARM	Y AXIS ARM	Z AXIS ARM
1										
2	25-27207-3	Body Section (As Welded)	333.55	69.27	23,104.3	100.43	33,498.6	100.46	33,510.0	
3										
4										
5	ADD:		0							
6										
7										
8	DEDUC:		0							
9										
10										
11	25-27207-3	Body Section (Complete)	333.55	69.27	23,104.3	100.43	33,498.6	100.46	33,510.0	
12										
13										
14										
15										
16										
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WEIGHT AND BALANCE CHANGE RECORD

ASSOCIATE CONTRACTOR	BOEING	CONTRACT NO.	AFO4(694)-046	REPORT NO.	OPR-2026
COMPONENT	SKIRT	LOT NO.		DATE	3/25/63
MODEL NO.	VS-133	DRAWING NO.	25-27207-3	PREPARED	H. CHRISTENSEN
SERIAL NO.	00000149	U.O. MISSILE	682	APPROVED	G. ROBERTS

EQUIPMENT CHANGE RECORD

UNIT	PART NO.	DESCRIPTION OF EQUIPMENT	WEIGHT AND BALANCE				
			WEIGHT	X AXIS ARM	Y AXIS ARM	Z AXIS ARM	MOMENT
1	25-27207-3	Body Section (As Weighed)	339.15	69.21	23,471.8	100.52	34,089.8 100.64 34,132.2
2							
3							
4							
5		ADD:	0				
6							
7		DEDUCT:	0				
8							
9							
10							
11	25-27207-3	Body Section (Complete)	339.15	69.21	23,471.8	100.52	34,089.8 100.64 34,132.2
12							
13							
14							
15							
16							
17							
18							
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WEIGHT AND BALANCE CHANGE RECORD

ASSOCIATE CONTRACTOR	BOEING	CONTRACT NO.	AFO4(694)-046	REPORT NO.	OPR-2027
COMPONENT	SKIRT	LOT NO.		DATE	3/25/63
MODEL NO.	WS-133	DRAWING NO.	25-27207-3	PREPARED	R. ST. ROMAIN
SERIAL NO.	0000150	U.O. MISSILE	684	APPROVED	G. ROBERTS

ITEM	DESCRIPTION OF EQUIPMENT	WEIGHT AND BALANCE					
		WEIGHT	X AXIS ARM	X AXIS MOMENT	Y AXIS ARM	Y AXIS MOMENT	Z AXIS ARM
1							
2	Body Section (As Weighted)	338.20	69.34	23,452.0	100.62	34,028.1	100.56
3							
4							
5	ADD:	0					
6							
7							
8	DEDUCT:	0					
9							
10							
11	Body Section (Complete)	338.20	69.34	23,452.0	100.62	34,028.1	100.56
12							
13							
14							
15							
16							
17							
18							
19							
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WEIGHT AND BALANCE CHANGE RECORD

ASSOCIATE CONTRACTOR	BOEING	CONTRACT NO.	AFO4(694)-046	REPORT NO.	OPR-2028
COMPONENT	SKIRT	LOT NO.		DATE	3/26/63
MODEL NO.	MS-133	DRAWING NO.	25-27207-3	PREPARED	H. CHRISTIANSEN
SERIAL NO.	0000012	U.O. MISSILE	685	APPROVED	G. ROBERTS

EQUIPMENT CHANGE RECORD

ITEM	PART NO.	DESCRIPTION OF EQUIPMENT	WEIGHT			WEIGHT AND BALANCE		
			WEIGHT	X AXIS ARM	X AXIS MOMENT	Y AXIS ARM	Y AXIS MOMENT	Z AXIS ARM
1								
2	25-27207-3	Body Section (As Weighed)	336.00	69.18	23,245.8	100.51	33,792.4	100.49
3								
4								
5		ADD:	0					
6								
7		DEDUCE:	0					
8								
9								
10								
11	25-27207-3	Body Section (Complete)	336.00	69.18	23,245.8	100.51	33,792.4	100.49
12								
13								
14								
15								
16								
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WEIGHT AND BALANCE CHANGE RECORD

ASSOCIATE CONTRACTOR	BOEING	CONTRACT NO.	AFO4(694)-046	REPORT NO.	OFR-2029
COMPONENT	SKIRT	LOT NO.		DATE	3/21/63
MODEL NO.	MS-133	DRAWING NO.	25-27207-3	PREPARED	W. FAIRD
SERIAL NO.	0000152	U.O. MISSILE	689	APPROVED	G. ROBERTS

EQUIPMENT CHANGE RECORD

ENT	PART NO.	DESCRIPTION OF EQUIPMENT	WEIGHT			X AXIS			Y AXIS			Z AXIS		
			WEIGHT	ARM	moment	ARM	MOMENT	ARM	ARM	MOMENT	ARM	MOMENT	ARM	MOMENT
1														
2	25-27207-3	Body Section (As Weighed)	339.65	69.23	23,513.6	100.31	34,069.6	100.49	34,131.6					
3														
4														
5		ADD:	0											
6														
7														
8		DEDUCT:	0											
9														
10														
11	25-27207-3	Body Section (Complete)	339.65	69.23	23,513.6	100.31	34,069.6	100.49	34,131.6					
12														
13														
14														
15														
16														
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WEIGHT AND BALANCE CHANGE RECORD

ASSOCIATE CONTRACTOR	BOEING	CONTRACT NO.	AFO4(694)-046	REPORT NO.	OPR-2030
COMPONENT	SKIRT	LOT NO.		DATE	3/27/63
MODEL NO.	WS-133	DRAWING NO.	25-27207-3	PREPARED	H. CHRISTIANSEN
SERIAL NO.	0000153	U.O. MISSILE	691	APPROVED	G. ROBERTS

EQUIPMENT CHANGE RECORD

ENT#	PART NO.	DESCRIPTION OF EQUIPMENT	WEIGHT AND BALANCE		
			WEIGHT	X AXIS ARM	Y AXIS ARM
1					
2	25-27207-3	Body Section (As Weighed)	335.00	69.19	23,180.2
3					
4					
5	ADD:		0		
6					
7					
8	DEDUCT:		0		
9					
10					
11	25-27207-3	Body Section (Complete)	335.00	69.19	23,180.2
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
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WEIGHT AND BALANCE CHANGE RECORD

EQUIPMENT CHANGE RECORD				WEIGHT AND BALANCE					
ENT	PART NO.	DESCRIPTION OF EQUIPMENT		WEIGHT		X AXIS		Y AXIS	
				WEIGHT	ARM	WOMENT	ARM	MOMENT	ARM
1									
2	25-27207-3	Body Section (As Weighed)		329.35	69.08	22,752.6	100.35	33,051.3	100.67
3									
4									
5	ADD:			0					
6									
7									
8	DEDUCT:			0					
9									
10									
11	25-27207-3	Body Section (Completed)		329.35	69.08	22,752.6	100.35	33,051.3	100.67
12									
13									
14									
15									
16									
17									
18									
19									
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WEIGHT AND BALANCE CHANGE RECORD

ASSOCIATE CONTRACTOR BOEING
 COMPONENT SKIRT
 MODEL. NO. WS-133
 SERIAL NO. 0000155

CONTRACT NO. Aero(694)-046
 LOT NO. 25-27207-3
 DRAWING NO. U.O. MISSILE
696

REPORT NO. OPR-2033
 DATE 4/1/63
 PREPARED R. ST. ROYAN
 APPROVED G. ROBERTS

EQUIPMENT CHANGE RECORD

UNIT	DESCRIPTION OF EQUIPMENT	WEIGHT AND BALANCE					
		WEIGHT	X AXIS ARM	X AXIS MOMENT	Y AXIS ARM	Y AXIS MOMENT	Z AXIS ARM
1							
2	Body Section (As Weighed)	332.	68.98	22.957.9	100.37	33.402.2	100.61
3							
4							
5	ADD:	0					
6							
7							
8	DEDUCT:	0					
9							
10							
11	Body Section (Complete)	332.80	68.98	22.957.9	100.37	33.402.2	100.61
12							
13							
14							
15							
16							
17							
18							
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WEIGHT AND BALANCE CHANGE RECORD

ASSOCIATE CONTRACTOR	BOEING	CONTRACT NO.	A004(694)-046	REPORT NO.	OPR-2035
COMPONENT	SKIRT	LOT NO.		DATE	4/3/63
MODEL NO.	WS-133	DRAWING NO.	25-27207-3	PREPARED	H. CHRISTIANSEN
SERIAL NO.	00000156	U.O. MISSILE	699	APPROVED	G. ROBERTS

EQUIPMENT CHANGE RECORD

SEQ#	PART NO.	DESCRIPTION OF EQUIPMENT	WEIGHT AND BALANCE					
			WEIGHT		X AXIS		Y AXIS	
			ARM	moment	ARM	moment	ARM	moment
1								
2	25-27207-3	Body Section (As Weighed)	335.10	72.07	23.143.9	100.43	33.655.6	100.57
3								
4								
5	ADD:	0						
6								
7								
8	DEDUCT:	0						
9								
10								
11	25-27207-3	Body Section (Complete)	335.10	69.07	23.143.9	100.43	33.655.6	100.57
12								
13								
14								
15								
16								
17								
18								
19								
20								
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WEIGHT AND BALANCE CHANGE RECORD

ASSOCIATE CONTRACTOR	BOEING	CONTRACT NO.	AFC4(694)-046	REPORT NO.	OPR-2036
COMPONENT	SKIRT	LOT NO.		DATE	4/4/63
MODEL NO.	MS-133	DRAWING NO.	25-27201-3	PREPARED	H. CHRISTJANSEN
SERIAL NO.	0000157	U.O. MISSILE	701	APPROVED	G. ROBERTS

EQUIPMENT CHANGE RECORD

S/N/T	PART NO.	DESCRIPTION OF EQUIPMENT	WEIGHT AND BALANCE				
			WEIGHT		X AXIS		Z AXIS
			ARM	moment	ARM	moment	ARM
1	25-27201-3	Body Section (As Weighed)	331.90	69.22	23,180.5	100.57	33,682.4
2							100.61 33,693.8
3							
4							
5	ADD:	0					
6							
7							
8	DEDUCE:	0					
9							
10							
11	25-27201-3	Body Section (Complete)	331.90	69.22	23,180.5	100.57	33,682.4
12							100.61 33,693.8
13							
14							
15							
16							
17							
18							
19							
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WEIGHT AND BALANCE CHANGE RECORD

ASSOCIATE CONTRACTOR	BOEING	CONTRACT NO.	AFO4(694)-046	REPORT NO.	OPR-2031
COMPONENT	SKIRT	LOT NO.		DATE	4/8/63
MODEL NO.	WS-133	DRAWING NO.	25-27207-3	PREPARED	H. CHRISTIANSEN
SERIAL NO.	00000158	U.O. MISSILE	T03	APPROVED	G. ROBERTS

EQUIPMENT CHANGE RECORD

LINE	PART NO.	DESCRIPTION OF EQUIPMENT	WEIGHT AND BALANCE		
			WEIGHT	X AXIS ARM	Y AXIS ARM
1					
2	25-27207-3	Body Section (As Weighed)	338.80	69.36	23,500.7
3					
4					
5	ADD:		0		
6					
7	DEDUCT:		0		
8					
9					
10					
11	25-27207-3	Body Section (Complete)	338.80	69.36	23,500.7
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
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WEIGHT AND BALANCE CHANGE RECORD						
EQUIPMENT CHANGE RECORD			WEIGHT AND BALANCE			
ITEM	PART NO.	DESCRIPTION OF EQUIPMENT	WEIGHT	X AXIS ARM	Y AXIS ARM	Z AXIS ARM
1						
2	25-27207-3	Body Section (As Weighed)	335.35	69.24	23,218.0	100.41
3						
4						
5	ADD:		0			
6						
7						
8	Deduct:		0			
9						
10						
11	25-27207-3	Body Section (Complete)	335.35	69.24	23,218.0	100.41
12						
13						
14						
15						
16						
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WEIGHT AND BALANCE CHANGE RECORD

ASSOCIATE CONTRACTOR	BOEING	CONTRACT NO.	AFO4(694)-046	REPORT NO.	OPR-2010
COMPONENT	SKIRT	LOT NO.		DATE	2/28/63
MODEL NO.	WS-133	DRAWING NO.	25-27207-3	PREPARED	R. ST. ROMAIN
SERIAL NO.	0000169	U.O. MISSILE		APPROVED	G. ROBERTS

EQUIPMENT CHANGE RECORD

ENT'L	PART NO.	DESCRIPTION OF EQUIPMENT	WEIGHT AND BALANCE							
			WEIGHT	X AXIS	Y AXIS	Z AXIS	ARM	MOMENT	ARM	MOMENT
1										
2	25-27207-3	Body Section (As Weighed)	336.70	69.17	23,288.8		100.61	33,874.1	100.55	33,854.2
3										
4										
5		ADD:	0							
6										
7										
8		DEDUCT:	0							
9										
10										
11	25-27207-3	Body Section (Complete)	336.70	69.17	23,288.8		100.61	33,874.1	100.55	33,854.2
12										
13										
14										
15										
16										
17										
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WEIGHT AND BALANCE CHANGE RECORD

ASSOCIATE CONTRACTOR	BOEING	CONTRACT NO.	AFO4(694)-046
COMPONENT	SKIRT	LOT NO.	
MODEL NO.	WS-133	DRAWING NO.	25-27207-3
SERIAL NO.	0000170	U.O. MISSILE	675

REPORT NO.	OPR-2022
DATE	3/18/63
PREPARED	H. CHRISTIANSEN
APPROVED	G. ROBERTS

EQUIPMENT CHANGE RECORD

ITEM	PART NO.	DESCRIPTION OF EQUIPMENT	WEIGHT AND BALANCE		
			WEIGHT	X AXIS ARM	Y AXIS ARM
1					
2	25-27207-3	Body Section (As Weighed)	334.70	69.17	23,152.3
3					
4					
5		ADD:	0		
6					
7					
8		DEDUCT:	0		
9					
10					
11	25-27207-3	Body Section (Complete)	334.70	69.17	23,152.3
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
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WEIGHT AND BALANCE CHANGE RECORD

ASSOCIATE CONTRACTOR	BOEING	CONTRACT NO.	AFO4(694)-046	REPORT NO.	OFF-2031
COMPONENT	SKIRT	LOT NO.		DATE	3/28/63
MODEL NO.	WS-133	DRAWING NO.	25-27207-3	PREPARED	R. ST. ROMAIN
SERIAL NO.	0000171	U.O. MISSILE	692	APPROVED	G. ROBERTS

EQUIPMENT CHANGE RECORD

LINE	PART NO.	DESCRIPTION OF EQUIPMENT	WEIGHT AND BALANCE					
			WEIGHT	X AXIS ARM	X AXIS MOMENT	Y AXIS ARM	Y AXIS MOMENT	Z AXIS ARM
1								
2	25-27207-3	Body Section (As Weighed)	338.40	69.05	23,366.9	100.25	33,923.2	100.35
3								
4								
5	ADD:		0					
6								
7								
8	DEDUCT:		0					
9								
10								
11	25-27207-3	Body Section (Complete)	338.40	69.05	23,366.9	100.25	33,923.2	100.35
12								
13								
14								
15								
16								
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WEIGHT AND BALANCE CHANGE RECORD

ASSOCIATE CONTRACTOR	BOEING	CONTRACT NO.	AFO4(694)-046	REPORT NO.	OPR-2016
COMPONENT	SKIRT	LOT NO.		DATE	3/11/63
MODEL NO.	WS-133	DRAWING NO.	25-27207-3	PREPARED	R. ST. ROMAIN
SERIAL NO.	00000178	U.O. MISSILE	666	APPROVED	G. ROBERTS

LINE	EQUIPMENT CHANGE RECORD		WEIGHT AND BALANCE						
	PART NO.	DESCRIPTION OF EQUIPMENT	WEIGHT	X AXIS ARM	X AXIS MOMENT	Y AXIS ARM	Y AXIS MOMENT	Z AXIS ARM	Z AXIS MOMENT
1									
2	25-27207-3	Body Section (As Weighed)	334.75	69.10	23,131.4	100.59	33,673.2	100.57	33,665.0
3									
4									
5		ADD:	0						
6									
7		DEDUCT:	0						
8									
9									
10									
11	25-27207-3	Body Section (Complete)	334.75	69.10	23,131.4	100.59	33,673.2	100.57	33,665.0
12									
13									
14									
15									
16									
17									
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WEIGHT AND BALANCE CHANGE RECORD

ASSOCIATE CONTRACTOR	BOEING	CONTRACT NO.	AFO4(694)-046	REPORT NO.	OPR-2025
COMPONENT	SKIRT	LOT NO.		DATE	3/22/63
MODEL NO.	WS-133	DRAWING NO.	25-27207-3	PREPARED	R. ST. ROMAIN
SERIAL NO.	00000179	U.O. MISSILE	680	APPROVED	G. ROBERTS

EQUIPMENT CHANGE RECORD

ENT	PART NO.	DESCRIPTION OF EQUIPMENT	WEIGHT AND BALANCE					
			WEIGHT	X AXIS	Y AXIS	Z AXIS	ARM	ARM
1								
2	25-27207-3	Body Section (As Weighed)	334.25	69.19	23.127.5	100.31	33.529.6	100.45
3								
4								
5	ADD:	0						
6								
7								
8	DEDUCT:	0						
9								
10								
11	25-27207-3	Body Section (Complete)	334.25	69.19	23.127.5	100.31	33.529.6	100.45
12								
13								
14								
15								
16								
17								
18								
19								
20								
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31								
32								

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WEIGHT AND BALANCE CHANGE RECORD

ASSOCIATE CONTRACTOR	BOEING	CONTRACT NO.	AFOL4(694)-046	REPORT NO.	OPR-2034
COMPONENT	SKIRT	LOT NO.		DATE	4/3/63
MODEL NO.	WS-133	DRAWING NO.	25-27207-3	PREPARED	W. BAIRD
SERIAL NO.	0000180	U.O. MISSILE 698		APPROVED	G. ROBERTS

EQUIPMENT CHANGE RECORD

ENT	PART NO.	DESCRIPTION OF EQUIPMENT	WEIGHT AND BALANCE					
			WEIGHT	X AXIS ARM	X AXIS MOMENT	Y AXIS ARM	Y AXIS MOMENT	Z AXIS ARM
1								
2	25-27207-3	Body Section (As Weighed)	334.80	69.28	23,195.2	100.44	33,625.7	100.52
3								
4								
5	ADD:		0					
6								
7								
8	DEDUCT:		0					
9								
10								
11	25-27207-3	Body Section (Complete)	334.80	69.28	23,195.2	100.44	33,625.7	100.52
12								
13								
14								
15								
16								
17								
18								
19								
20								
21								
22								
23								
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25								
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27								
28								
29								
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6.4 **BASE HEAT DEFLECTORS**

Serial No.	25-25878-2	25-25877-2	25-25876-2
0000130	6.05 lb.	20.33 lb.	21.25 lb.
0000131	6.22	20.30	21.22
0000132	6.15	20.49	21.29
0000133	6.22	21.34	21.34
0000142	6.07	20.30	21.29
0000143	6.27	20.21	21.17
0000144	6.22	19.94	21.33
0000145	6.20	20.47	21.33
0000146	6.14	20.49	21.32
0000147	6.22	20.34	21.20
0000148	6.26	20.38	20.90
0000149	6.19	20.40	21.21
0000150	6.14	20.92	21.27
0000151	6.22	19.82	21.13
0000152	6.24	20.47	21.28
0000153	6.19	20.35	21.15
0000154	6.26	20.38	21.36
0000155	6.30	20.34	21.22
0000156	--	20.30	21.22
0000157	6.14	20.57	21.29
0000158	6.19	20.56	21.21
0000159	6.28	20.34	21.43
0000169	6.25	20.33	21.30
0000170	6.28	20.46	21.33
0000171	6.22	20.44	21.32
0000178	6.22	20.42	21.51
0000179	6.21	20.30	21.25
0000180	6.06	20.42	21.30
0000915	6.28	--	--